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ORIGINAL ARTICLES.

THE INFECTION OF PRIMARY ACQUIRED SYPHILIS.

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That syphilis is a contagious as well as an infectious disease is well known, and is proved by clinical experience. Contagious in that contact, direct or indirect, is *sine qua non* for its propagation. Infectious, in that there is a specific virus; a period of incubation, followed by the general constitutional symptoms, and immunity from a second infection for a longer or shorter period of time. This is a symptom-complex, characteristic of those diseases, which, in the light of our advanced knowledge of their bacterial and biological origin, we class as specific, infectious diseases. In common with many other of the infectious diseases, certain facts as to origin, propagation under favorable conditions of climate, hygiene, contact, etc., and the marked clinical and pathological changes, were generally recognized long before the specific cause was discovered.

Primary acquired syphilis, which is the so-called first stage of the disease, comprises all the changes occurring from the primary infection until the appearance of symptoms disclosing constitutional invasion. This first stage is local—that is, the infection is confined to the point of initial entry and to its supplying lymph channels and gland. The entrance of the virus into the general circulation through the ductus thoracicus, is announced by the well-known prodromal symptoms, followed by the secondary eruptions on the skin and mucous membranes. This occurs usually from four to six, sometimes eight, weeks after infection; rarely later.

What is the cause of this primary lesion, this local point of infection, from which the whole economy is invaded? What are the conditions modifying this virus, or modifying the soil on which it finds refuge? What are the dangers to society from the spread of this infection, and how may they be averted? These are questions of the utmost interest, not only to the syphilopapher, but also to the general practitioner, and, in a wider sense, to the public.

Clinical experiences emphasize the facts of primary infection *in loco;* that infection is possible only on an abraded surface through contact with the syphilitic virus, and that from this initial lesion all the organs and tissues of the body are secondarily affected. Furthermore, that the tissues and secretion are carriers of the contagion, which, once having run its course, usually renders the subject immune to a subsequent infection. Researches, since the advent of our modern bacteriological science, beginning with the "vibrio lincola" of Donné, the blood-micrococcus of Hallier, the "syphilis-cell" of Hostorfer, and the various cocci, bacilli, spores of other writers, brings us to

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the most authentic and probable cause, the bacillus of Lustgarten, discovered in 1884.

This bacillus, found in the papule, in periosteal and visceral gummata, in lymph glands and in the rete malphighii, as well as in the initial lesion, resembles somewhat the tubercle bacillus. It is 3½-4½ m. long, and ¼-¾ m. thick; are usually found in the cells, seldom free between them. That this bacillus is the cause of the specific virus-carrying agent of syphilis is now almost generally admitted. If not proved yet by analogy to other specific infections, it must be regarded as the most probable factor, and the one founded on the most scientific basis.

From the tubercle and lepra bacilli we may differentiate the syphilis bacillus by the fact that pure cultures of the former are easily obtained, while for some reason unknown a pure culture of the latter has not been secured. Again, the history and course of the general infection is quite different.

The smegma bacillus, commonly found about the genitalia, most nearly resembles the Lustgarten bacillus. But the fact that the syphilis bacilli may be found in gummata or papules far removed from the genital region at once differentiates. But the syphilis bacillus is found oftener and in greater abundance in the primary lesion and in recent syphilitic products. According to Lewy, the following points are differentially diagnostic: The syphilis bacilli are generally enclosed in the cellular structure, while the smegma bacilli occur free, or in the cells—usually in large colonies. The smegma bacilli are somewhat smaller and thicker, lose the coloring material quicker by alcohol, and resist longer the action of acids.

As to the value of this discovery as a means of diagnosis, I would reiterate the opinion I have elsewhere expressed†: "Bacteriology has thus far been of no practical service in the solution of doubtful cases. Even in undoubted cases of syphilis and at the point of entry or initial lesion, the bacilli first described by Lustgarten, in 1884, have been found with such difficulty and in such few numbers as to cast doubt as to their being the true etiological factor. This may be due to imperfect staining and decolorizing methods, but until better and simpler are discovered, and the bacilli thus found more constantly and in greater abundance, the microscope will not be, as in phthisis, an important bedside diagnostician."

The virus is a true *virus animatum*, not disseminated through the atmosphere, as is tuberculosis, nor through water, as is typhoid fever. Concerning the pathogenic and chemic combinations of this virus, after entering the system, the formation of ptomaine-toxines or of toxalbumens, we have no positive knowledge. But by analogy with acute, specific infections, as studied in man and in the lower animals, we may conclude that one or more of these bacillary products is formed, and thus account for the period of incubating the secondary outbreak, the periods of latency and the tertiary manifestations, together with the other well-known facts of immunity, heredity, etc. Reasoning thus, Fuiger has arrived at some very plausible and evidently satisfactory conclusions concerning the various phenomena of this, thus both acute and chronic, infectious, specific disease.

For the propagation of this bacillus or virus, a suitable soil is necessary. This is found on any abraded skin or mucous surface. A surface covered with its protecting epithelial layers, presents no suitable nidus for its lodgment. Further than this we know nothing positively, but, reasoning again by analogy, we conclude that the bacilli, having found a suitable soil, here multiply; their chemic products are absorbed, and, carried by the lymph channels, infest the lymph glands; and from these gradually invade the entire lymphatic system, and, finally, are carried into the general circulation.

The economy offers resistance, both local and constitutional, to the entrance of the virus. Local, as evidenced by inflammatory changes in and about the blood vessels, and by cellular infiltration, much the same as that occurring in tubercular invasion. Constitutional, as evidenced by the malaise, fever, osteocopic nocturnal pains, icterus, etc. I believe that the system at first manufactures a sort of natural antitoxin. But this being too weak, the soil is not sufficiently immunized, or the system being reduced by some chronic

† The Diagnosis of Acquired Secondary Syphilis, where the History and Initial Lesion are Absent.—*Medical Bulletin*, November, 1895.

constitutional vice, such as malaria, tuberculosis, alcoholism, etc., the invading toxin more or less quickly overcomes the resistancy, and accomplishes the general infection through the blood current. This view is strengthened by the clinical evidences that after primary infection, and even before the secondary lesions have appeared, a second inoculation with syphilitic virus remains negative; further, that a mother may give birth to a syphilitic child by a father who is a latent-syphilitic, and herself remain immune, or, perhaps, acquire a modified and much attenuated form of the disease. Again, children of mothers syphilized while pregnant are born healthy, and are immunized against a primary attack.

These facts, with the isolation and cultivation of a bacillus, and better knowledge of its resultant toxic action, lead us to hope that a syphilitic antitoxin may be elaborated, which, used at the time of primary infection, will so augment the resistance of the organism as to prevent secondary constitutional infection; or if such has already taken place, will modify its effects by cutting short its duration as an active circulating toxin. The advances made by the study of hydrophobia, tetanus, tuberculosis, typhoid fever, the exanthemata, and other acute infectious maladies, makes it seem reasonable and practicable to look along these lines for the gradual attenuation and final disappearance of one of the great scourges of mankind.

How may this syphilitic virus or its soil be modified? We have no statistics on this subject, and are forced to go back to clinical and laboratory investigations. The virus from a person having a non-virulent syphilis, when inoculated on another, may produce a severe, even fatal, malady—the so-called precocious syphilis. This may be due to the inoculated having received a greater amount of the virus, and its, therefore, extremely rapid multiplication *in loco*, and sudden toxic diffusion, or, perhaps, to the lower resisting powers of the individual. Communities and peoples which have remained free from this infection, when attacked, suffer, as a rule, from syphilis in its most malignant type. As, for instance, the epidemics in Europe following the return of the Crusaders, and the South Sea Islanders, and our own Indians, of more recent years. Again, the pre-existence of debilitating conditions, such as anemia, deficient and improper food, but especially such diseases as tuberculosis, malaria, etc., favor the severest manifestations of syphilis.

The infection may be not only syphilitic, but may also be mixed—that is, the virus may contain pathogenic micro-organisms other than the syphilitic. Which of these may infect the organism as a whole to intensify, or to modify, the action of the syphilitic bacillus, we know nothing. Locally, however, pus-producing germs are frequently present in the initial lesion. This accounts for the marked suppuration found in some cases of hard chancre, as well as those cases of mixed infection, the so-called *chancre mixte* of the French, whose etiological and clinical significance has heretofore created such confusion in the history of syphilis. At present, we regard soft chancre, or chancroid, as a separate infection, caused by one of the pus-producing micro-organisms. This virus is inoculable and auto-inoculable, and infection is not followed by constitutional symptoms.

The attitude of modern medicine is prophylactic—that is, if we eliminate or modify favorably the cause, we prevent or lessen the effects of the disease. This is especially true as regards the constantly growing group of infectious diseases, whose pathogenic organisms have been discovered or whose methods of infection are known.

The question of limiting the spread of this malady, in all stages, but especially the primary, has been discussed by the most eminent authorities in the profession. It has been the subject of State regulation by the isolation and examination of different classes (soldiers, sailors, especially prostitutes), all without definite result in preventing the spread of this contagion. Barthelemy, Fournier and other eminent French authorities admit its failure, and the statistics of the Belgian, French and Russian governments show that it is incapable of adequately dealing with this infection so as to diminish its prevalence, even among the classes it was sought to reach.

As regards the primary infection, its cause is a specific micro-organism; the conditions under which it finds entrance

and thrives is abrasion of skin or mucous membrane; its method of propagation from person to person is by mediate or intermediate contact; and its method of infecting the general system is through the lymph channels, later the general blood current. We may hope the future may develop a specific antitoxin which will prevent or modify systemic infection, as is to-day accomplished in diphtheria, hydrophobia and other specific infections. Till then efforts should be directed to modify the soil so as to render infection more difficult, and by personal and united professional effort, educate the public to sexual continence before marriage and the dangers and consequences of specific infection, which may result in life-long misery. We know that this infection is found in all classes of society, with as great relative frequence among the vicious rich as among the poorly nourished, unhygienic and ignorant poor; that intercurrent debilitating acute or chronic diseases serve to facilitate infection, or when taken place, to render it more severe and of greater destructive tendency; and, finally, that, on account of its very private nature, it is impossible to regulate the diffusion of this virus, or to isolate from it. As regards the infection through wet-nurses, by means of the humanized vaccine virus, etc., adequate care and medical supervision would be sufficient to eliminate these and similar causes.

It has seemed to the writer that the practice of circumcision has a marked effect in rendering the subject more difficult of infection. By this, it is not claimed, that infection is not frequently found in those so treated, but the well-known racial vigor of the Hebrew, preserved through centuries of oppression and forced crowding under unhygienic conditions, the comparative freedom from hereditary syphilis, etc., are facts speaking much for the dietetic, hygienic and religious rites of the Jews, and especially for the rite of circumcision, practiced by them through so many centuries. There are no statistics that I am aware of on the subject, but this is a matter of clinical and general observation. Circumcision, by removal of so much of the prepuce, reduces the area of possible infection; by exposing the epithelial covering of the glans to more or less friction, renders it less sensitive, harder, less liable to be easily abraded, especially about the meatus urinarius, and therefore better able to withstand specific infection. Besides obviating the complication of phimosis, and of more or less tight prepuce, the parts may be easily inspected and kept clean, and thus the good culture medium offered by the contained smegma and its products of decomposition, assisted by the added heat and moisture, in case of phimosis, or of tight prepuce, may be obviated; and the soil be early modified if infection had taken place, by local antiseptic treatment. Circumcision, to be most effective in these respects, should be done early in life, preferably during infancy, and under the most improved modern aseptic and antiseptic surgical precautions.

SELF-CLEANSING MECHANISM OF HAIR.

An interesting example of the subservience of form to function, which the writer has never seen mentioned, is found in the arrangement of the epidermic scales forming the outermost layer of animal hairs. The buried edges of the scales point toward the root of the hair, while the free edges project obliquely in the direction of the hair end, as the shingles on a roof point to the eaves. When a hair is drawn between the thumb and forefinger, which are gently pressed upon it, it will be found that the hair glides far more easily when pulled from root to tip than in the opposite direction. It is at once obvious that foreign particles clinging to the hair would find easy the passage outward toward the tip and away from the surface of the body, but exceedingly difficult any progress in the opposite direction. Every movement of the hair, especially frictional disturbance, must set up a current of foreign particles toward the hair tip.—*Good Health.*

DISEASES OF THE ACCESSORY CAVITIES OF THE NOSE.

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Not infrequently cases of ethmoid disease are difficult of diagnosis, and sometimes, when suggestions are made as to methods of treatment, there is some opposition on the part of the patient, as far as allowing themselves to be subjected to the procedure. My experience, however, in the treatment of troubles about the nose has not brought me in connection with such a large proportion of diseased conditions about these cavities. This may be due to the fact I have not been able to discover these when present.

However, fortunately for the patient, or for me, or unfortunately for both of us, I have had but few cases in which I could easily determine any inflammatory action in the antrum, at least. Only recently, however, such a case fell into my hands, and after some suggestions about treatment the patient disappeared and I have not seen her since. I have had some experience in the treatment of these cases, but I have not noticed these cases in my practice, connected largely with those in which we have polypoid degeneration of the mucous membrane of the nasal cavity.

It is a rule of mine, when I find suffering from prolonged hypertrophic inflammation about the nasal cavity, to make inquiry as to symptoms, whether the patient might have suffered pain at any time, and I make it a point to percuss the antrum and also the frontal sinuses and to examine thoroughly, both anteriorly and posteriorly, the nasal cavity, to discover if possible any pus in or about these cavities. I have in a few instances found some tenderness about the antrum, particularly so if the patient had been suffering recently from a "cold in the head," coryza.

Still, in the majority of cases I have not discovered pus being given off, either at the site which would indicate inflammatory action in the antrum itself, or in the frontal sinus or in the ethmoid cells; but, if I were to see a case suffering from pus in the sphenoid cells, I do not know whether I could diagnosticate that case. I have not seen a case in which I could say positively there was trouble in the sphenoidal cells themselves.

In these cases the treatment is varied. Some operators prefer the method of opening into the canine fossa. Others prefer to extract a tooth, particularly if there is a diseased tooth in the locality. Frequently the trouble is the result of the diseased tooth bulging the floor of the antrum. Some hold the disease in the antrum is secondary and occurs during one acute condition or inflammation in the antrum itself lighting up the inflammation and causing the formation of the abscess at the root of the tooth and necessitating the extraction of the tooth to get rid of the trouble. About one in forty cases, it is said, result strictly and purely from disease in the tooth itself.

As to the trouble manifesting itself in the ethmoid cells or in the frontal sinus, there are one or two points that might be taken into consideration, so far as the diagnosis is concerned and in addition to that the subsequent treatment. I have never yet resorted to any very radical procedure in these cases, because those which have fallen into my hands have been, usually, of short duration and I could bring relief to them without a very radical procedure. In the hands of those who have had experience in operating in this region, it is not such a very difficult thing to do, but in the hands of the inexperienced, of which I am one, it is more difficult. It is not to be undertaken unless you can detect some eroded surface or dead bone.

I have found in these cases, that by removing the anterior end of the middle turbinated bone, either by the galvanocautery (which I prefer) or the cold snare, we are able to reach this with comparative ease. My method of procedure in these cases is to make use of some means which will bring about a reduction of the hypertrophic condition existing in the mucous membrane at the time, so one may ob-

tain a free discharge from the cavity. The great trouble in these cases is that when once involved, the outlet becomes more or less blocked by the mucous membrane. So by reducing the inflammatory condition present, by eliminating as far as possible this interference, we can proceed by the methods which have been outlined, that is by thorough irrigation as far as possible, by the application of such remedies as will relieve the inflammation present, etc.

In certain cases of disease in the ethmoid cells or frontal sinus there is likely to be trouble about the inner canthus. Not infrequently, if these cases are of long standing and there has been much necrosis or breaking down of the structures, there may be a fluctuating tumor appearing at this point, sometimes involving the lachrymal sac.

It is well to draw a distinction between cases brought about by an inflammatory condition in the frontal sinus and those brought about by the trouble located in the lachrymal sac. If you can cause a passing back of the pus, by pressure, into the nasal cavity, you may be pretty sure the trouble originates from the frontal sinus or in that neighborhood.

It seems to me an operation externally and anteriorly would be the safer procedure. In this way you could bring everything into view. When the ethmoid cells are involved in an inflammatory condition, in all probability the frontal sinus also will be involved. In operations in this region, if it is desired to get the parts in view, so that the operator can see exactly what he is doing, by trephining the frontal sinus, just underneath the brow, and passing down into the ehtmoidal sinus, are better able to do way with the diseased tissue and to eliminate all this trouble.

So, in this case, it seems to me, it would be better to make an external operation, trephining the frontal sinus, curetting or scraping out the diseased tissue, pass a drainage tube into the anterior nares and in this way establish thorough drainage, and then wash out from the outside downward and inward through the nasal cavity, whatever pus accumulates.

Of course, the opening is only temporary and as soon as there is an establishment of the healthy condition, it can be closed. Sometimes you may have a little difficulty in making it close up. I would say, in this connection, the treatment of these conditions, when present, extends over a long space of time. Only recently I had a case under observation, about a year since, in which the patient had a considerable discharge from the sinus, more or less pain on percussion, and in additional marked constitutional symptoms, and was sent to me for some relief in this direction. Upon inspection and by manipulation I finally succeded in satisfying myself there was some acute trouble in the frontal sinus.

This patient I put in the best condition possible, by constitutional treatment and by local applications to the mucous membrane, and so soon as she was in good condition, I got out of the way as much of the diseased tissue as possible with the galvano-cautery. I kept the parts clean with an ordinary syringe, carrying an ounce or two, on the end of which I put a flexible tube, and on the end of this attached an eustachian catheter, and by bringing this in contact with the ethmoid cells I could readily cleanse the parts. There came away a little discharge, with some blood and purulent matter.

I used some antiseptic solution and also the permanganate of potassium solution. In addition I used protonuclein, three grains four times a day, with the expectation of some increase of temperature, but the patient showed no increase of temperature but a constant change of all the symptoms for the better.

A friend once called upon Michael Angelo while he was finishing a statue: some time afterward he called again; the sculptor was still at the same work. His friend looking at the figure, exclaimed, "You have been idle since I saw you last!" "By no means," replied the sculptor. "I have retouched this part, and polished that; I have softened this feature, and brought out this muscle; I have given more expression to this lip, and more energy to this limb." "Well, well," said his friend; "but all these are trifles." "It may be so," replied Angelo; "but recollect, that trifles make perfection, and that perfection is no trifle.—*Curious Questions.*

COMMUNICATIONS.

THE COUNTRY SLAUGHTER-HOUSE AS A FACTOR IN THE SPREAD OF DISEASE.*

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Generally speaking, the places for slaughtering animals for food may be divided into large *abattoirs* and local *slaughter-houses*. The former are usually located in cities, and operated in connection with packing houses. The latter are used chiefly by the meat dealers of the country towns, and the animals slaughtered at these places are generally if not always, for local consumption. In this article it is intended to discuss only the local slaughter-houses in their relation to disease, and the criticisms here made do not apply to the large abattoirs which prepare meat for export and interstate trade in accordance with the system of Government inspection now in force.

It is impossible to ascertain from the State authorities the total number of places of slaughtering in either of the States discussed, so that no definite figures can be given covering the entire area visited, but a certain number of representative towns will be considered, in which the data were obtained by personal investigation.

The butchers of the counties visited supply themselves with meat from the following sources:

(1) Some meat dealers, especially those of the cities and larger towns, obtain all their meat from the large packing houses and do no slaughtering themselves; this class does not, therefore, enter into the field of this article.

(2) In a few cases meat men were found who did their own killing, but who had no regular place for slaughter. These men would drive from farm to farm and buy one or two animals, which they killed at the place of purchase, throwing the offal of the slaughtererd animals to the farmers' hogs. They would take the dressed or partly dressed carcass to their meat shop and place it on the block.

(3) In a number of cases small dealers were found who had no slaughter-houses of their own, but who did all their killing at slaughter-houses controlled by other local butchers.

(4) In two towns at least it was learned that farmers occasionally slaughtered their own animals and brought them to town dressed or partly dressed, selling them in halves or quarters to the local butchers or to families, hotels, restaurants, etc. The farmers were in the habit of feeding the offal of the slaughtered animals to their hogs.

(5) The majority of the local dealers in small towns own or rent small slaughter-houses. In nearly all cases these houses are located on or just beyond the town limits. They are frame structures, generally of one room, built directly on the ground or raised several feet, and surrounded by a small yard, or in many cases situated in a large field.

In perhaps the majority of cases the butchers controlled a small piece of land, and, as a rule, hogs were kept on the premises to eat the offal. In many instances the houses were located on the banks of rivers or creeks into which the premises drained. Frequently the offal was thrown down an embankment toward the water and left there to be eaten by hogs and rats or to decay and drain into the stream. In some cases the slaughter-houses were located on farms. These farms were either owned by the butchers or a farmer would give to the butcher, for his slaughter-house, the use of a piece of ground on the corner of his premises in return for the use of the offal as food for his hogs.

* By permission from the Year Book of the United States Department of Agriculture for 1896.

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A very important matter from the standpoint of public hygiene is that in case a town was provided with more than one slaughter-house, the houses were rarely segregated, but were scattered north, south, east and west, each butcher apparently trying to place his house in such a position as to prevent any undue amount of curiosity on the part of his competitors as to the character of his stock.

The plan of inspection followed was first to call on the local board of health and the mayor of the town, in order to obtain as much information as possible regarding the location of the houses, character of the butcher, etc. A visit was then made to the dealer, and permission to visit his slaughter-house was requested; at the same time information was requested concerning the number of animals used, the origin and disposition of the stock, etc. In these notes any statements not made from personal observation are given upon the authority of the mayor, the local board of health, or the butchers themselves. As a rule, permission to visit the grounds was easily obtained, and all questions were cheerfully answered. In some isolated cases, however, permission to enter the premises was refused by the butcher, and these places were then inspected only from a distance. It is needless to state that these premises were found in poor condition.

Cases, taken at random from notes covering nineteen towns in one State and ten towns in another, cited as fair examples of the places visited. Some places were found in good condition; some in a condition that was a disgrace both to their proprietors and to the communities that tolerated their existence.

The first matter to notice in connection with this subject is that every slaughter-house is from the very nature of things a center of disease, and naturally the poorer the condition of the premises the more dangerous they are. These facts will appear clear if one considers what takes place at one of these houses. Even if only a few animals are slaughtered each week, the total number may amount to several hundred during the year. Some of the animals are surely diseased. At least one of the hogs has trichinosis, and when the offal of this trichinous hog is fed to hogs which are raised upon the grounds the latter cannot escape infection with trichinae. But that is not all. The slaughter-houses are often overrun with rats; the rats feed on the offal, and when feeding on the offal of a trichinous hog they likewise cannot escape infection with trichinae. As a matter of fact, the rats captured at slaughter-houses, meat shops and be infected in a much greater proportion rendering establishments, were found to than rats taken from other sources, as is shown by the following table:

SUMMARY OF TRICHINOSIS IN RATS.

Rats	Number examined	Number infected	Number uninfected	Percentage infected
Group 1:				
From slaughter-houses	63	35	28	55.55
From meat shops	7	4	3	57.14
From packing-houses	2	.....	2	.....
Total	72	39	33	54.17
Group 2:				
From corn-cribs	11	1	10	9.09
From barns	61	.....	61	.....
From feed stores	1	.....	1	.....
From hotel	1	.....	1	.....
From unknown source	1	1	.....	100.00
Total	75	2	73	2.66
Grand Total	147	41	106	27.89

Rats act as direct transmitters of trichinosis to hogs. According to the above statistics, if a hog kept at a slaughter-house eats a rat, the chances are fifty-five in a hundred that it will become infected with the disease. Now, suppose that a slaughter-house is burned or abandoned, as was frequently found to be the case; the rats inhabiting the premises naturally wander to the neighboring farms or to the corn-cribs in order to obtain food, and of every hundred rats that leave the slaughter-house grounds fifty-five carry with them the disease known as trichinosis. This disease they transmit to hogs, if eaten by them.

It is frequently denied that hogs will eat rats, but such denial is erroneous. Sometimes hogs have refused rats when offered to them; but that hogs do and will eat rats has been proved by experiment.

In the segregation of slaughter-houses care should be taken to destroy the rats in all the houses which are deserted in order to prevent their wandering to neighboring farms.

From this it will be seen that every slaughter-house where hogs are killed forms a center for the spread of trichinosis to the neighboring farms, and when the offal is fed to other hogs it cannot be expected that the latter will escape trichinosis any more than the rats. Offal-fed hogs are, therefore, liable to be infected to an extent varying from 10 to 100 per cent. and this custom of feeding hogs at country slaughter-houses unquestionably is mainly responsible for the spread of trichinosis among the hogs of the two States visited. When we recall that, as was ascertained by inquiry, from one-fourth of 1 per cent. to nearly 4 per cent. of all the hogs shipped from certain localities are offal-fed, we need not be at all surprised to find that 1 to 2 per cent. of all the hogs examined at the large abattoirs are trichinous. Furthermore, since so much offal-fed pork is placed upon the local market in country towns, we need not be at all surprised should we find that a quarter or a half of all the pork sold by many country butchers is infected with trichinae.

But trichinosis is not the only disease which the country slaughter-house spreads by offal feeding. It is well known that tuberculosis occurs in cattle and hogs. Now, if one or two hundred of these animals are killed at a country slaughter-house during the year, it may safely be assumed that one or more of them are tuberculous. Feeding the offal of these tuberculous animals to hogs will transmit the disease to those hogs, and these animals when used as food may in turn transmit tuberculosis to human beings.

The country slaughter-house is also the center of infection for a number of animal parasites which are injurious to live stock or, in some cases, even to man, and which are spread by means of dogs. Anyone who has visited one of these places will have noticed that the dogs soon discover the premises as a good place to obtain food. While eating the discarded organs they infect themselves with several kinds of parasites, of which the following are the more important:

The *Echinococcus hydatid* is found in the liver, lungs, and other organs of cattle, sheep, hogs and certain other animals. It varies in size from a small object as large as a hazel-nut or smaller to a bladder the size of a child's head. This bladder contains numerous tapeworm heads, and when eaten by a dog each head produces a small tapeworm. The eggs of this tapeworm are in turn transmitted to the various domesticated animals and man, and give rise to hydatids.

This parasite seems to be on the increase in this country. The disease it causes can occasionally be cured, but in man it is said to be fatal in five years in about 50 per cent. of the cases. It can, however, be almost completely eradicated if slaughter-houses are properly cared for.

The Thin-necked bladder worm is found in the body cavity, in the omentum, etc., of cattle, sheep and hogs, and is quite common in some localities. It develops into the Marginate tapeworm when eaten by dogs. The eggs of the marginate tapeworm are then scattered by the dogs on farms, in the road, etc., and infect cattle, sheep, and hogs with the bladder worm. It occasionally causes the death of young animals, as the bladder worm cannot be reached with medicines.

The Gid bladder worm is found in the brain of sheep, and occasionally in other animals, but fortunately it is exceedingly rare, if present at all, in this country. When eaten by dogs, it develops into a tape-worm which produces numerous eggs. The dogs scatter these eggs on farms, sheep become infected with them, and contract the disease of "gid" or "turnsick."

The Tongue worm is found encysted in the viscera of cattle, sheep, and other animals. It is about a quarter of an inch long, and when eaten by dogs grows to be 2 to 5 inches long, inhabits the nasal cavities, and produces numerous eggs, which are transmissible to man as well as to the domesticated animals.

It is needless to enumerate all the diseases which might center at a slaughter-house, but two more maladies, i. e., hog cholera and swine plague, demand attention. It has already been noticed that many slaughter-houses drain directly into brooks and creeks. If hogs suffering from hog cholera or swine plague are killed and the entrails thrown into a yard draining into a creek, it inevitably follows that the creek becomes contaminated and the disease then spreads to farms lower down the creek, and an outbreak of the disease will

follow. The same remarks apply to wire worm disease in sheep.

From the foregoing discussion, the writer is forced to adopt the view that every slaughter-house is a center from which disease may spread, and that the chief factors concerned in the spread of these diseases are (1) offal feeding, (2) drainage, (3) rats, and (4) dogs.

There are two methods of meeting and lessening the dangers with which slaughter-houses threaten the farmer:

(1) Since every slaughter-house is a separate center of disease, it follows that a reduction in a number or a segregation of slaughter-houses will reduce the number of places from which disease will spread.

(2) Since offal feeding, drainage, rats, and dogs are important factors concerned in spreading the diseases, it follows that we can control the spread of these diseases by controlling these factors.

An exact ratio of the number of inhabitants to each slaughter-house can not be deduced, as the neighboring farmers naturally draw some of their supplies from the local markets. Taking, however, the number of inhabitants in towns and the number of slaughter-houses, localities can be found where the proportion varies between one slaughter-house to 72 inhabitants and one slaughter-house to 1600 inhabitants. In twenty-nine towns of the two States visited sixty-nine local slaughter-houses were found. Sixteen of the towns had two slaughter-houses each, eight had three each, two had four each, and one had five.

From the above figures it will be seen that twenty-nine localities furnish sixty-nine disease centers for the surrounding country. It is also evident that if the slaughter-houses were so segregated that all the butchers of each town were obliged to do all their killing at a common slaughter-house, we should have forty places less from which disease could spread to the farms surrounding these twenty-nine towns.

The first and most important proposition, therefore, to lessen the danger due to the country slaughter-house is to reduce the number of places at which slaughtering is allowed, compelling all the butchers of a given town to slaughter at the same place.

This suggestion will naturally not meet with the approval of all the butchers. The objection will be made that they have money invested in slaughter-houses and that any change will mean financial loss to them. To this the reply is that all or nearly all the country slaughter-houses are frame buildings, which are not of much value; they are cheaply built, poorly arranged, etc., and represent an infinitely smaller investment than the money invested in stock by neighboring farmers; and the temporary loss to be sustained by the butcher will be infinitely less than the loss sustained in the course of time by the neighboring farmers and by the community. Further, these numerous local slaughter-houses are menaces to public health, and under these circumstances a small financial loss to a few individuals cannot be taken into consideration.

Another objection that will be made by the butcher is that while the segregation of the slaughter-houses would reduce the number of centers of infection, it would not reduce the amount of infection in a given district. To this the reply is that the objection is more apparent than real, since a given amount of infection in a restricted area is more easily controlled than the same amount of infection scattered over a larger area and in different localities.

Objection will also be made that this segregation of the slaughter-houses is an innovation, an experiment, a scientific theory which is not practicable. The reply to this is, that while it is an innovation in this country, it has been tested and found satisfactory in other countries, where practical experience has borne out scientific theory and where the plan has been shown to be entirely feasible.

Objection may be raised that one butcher does not care to be subjected to having his business open to the gaze of other butchers. This objection answers itself. There undoubtedly are butchers who would object to having other butchers see the class of stock they kill or raise, and the sooner the health authorities exercise some control over these dealers the better.

In connection with the segregation of slaughter-houses it is suggested that a slaughter-house could be built by a stock company or by the municipality and stalls let to the butchers, or the butchers could

build a common house for killing, or each butcher could move or build within a restricted area to be given up to slaughter-houses.

Passing now to the most potent factors in the transmission and spread of disease from country slaughter-houses, let us see how these factors may best be controlled.

Disposition of offal.—The author unqualifiedly condemns the feeding of the uncooked offal of slaughtered hogs (and also of uncooked swill containing scraps of pork) to other hogs, on the general ground that this custom is a most potent factor in spreading disease, and also on the ground that butchers almost universally admit that offal-fed hogs are inferior to corn-fed hogs. It is here also specifically maintained that offal feeding at the small country slaughter-houses is the most important factor in the spread of trichinosis among our Western hogs, since the conditions found are such that undoubtedly from 25 to 100 per cent. of the offal-fed hogs at these houses are infected with trichinae. This custom unquestionably also plays an important role in the spread of tuberculosis among hogs. It is accordingly urged that the offal of hogs be disposed of in some other way. A dealer who kills but two or three hogs per week cannot, of course, afford to render the offal, but if all the butchers of a given town or county, or of two or three neighboring towns, kill at the same place, the proportionate expense of renderng will be reduced.

There is no valid sanitary objection to feeding the offal of healthy cattle and sheep to hogs, but there are decided objections to feeding this offal in case the animals are diseased. In order to be on the safe side, therefore, it is urged that the custom of offal feeding be entirely abolished.

In large abattoirs no offal is fed, so that the claim some Europeans have made that offal feeding at Chicago and other large places spreads disease among our stock is entirely groundless.

Drainage.—If the offal is rendered, the problem of the drainage of slaughter-houses will be greatly simplified, since the greatest danger in the drainage is from the decaying offal. The latter being disposed of, the drainage system will simply have to take care of the unused blood, the water used for washing, and the rain.

Regarding the water supply, it may be stated that this is very poor in the average country slaughter-house, but a segregation of the houses would enable the expense of a windmill or other supply power to be divided among several parties, and thus reduced, while the water supply will be increased. The drainage of the killing floors and yards is naturally quite rich, containing considerable manure, blood, etc. To drain this material directly into small creeks and rivers is somewhat dangerous for neighboring farms. As a safe method of disposal, the use of large covered cesspools situated some distance from the water supply is suggested. The cleanings from these cesspools would form excellent fertilizer, but should not be used fresh on any ground to which cattle, sheep, or hogs have access, or upon grounds planted with vegetables which are eaten uncooked. With comparatively little expense the blood could be immediately prepared as fertilizer.

The destruction of rats.—How to destroy the rats around a slaughter-house is a serious problem. The use of "Rough on Rats" in these places is to be condemned, as it causes the rats to wander, thus spreading disease. It is far better that diseased rats should remain on the premises than that they should wander to farms. "Rat runs" by use of ferrets or by pouring hot water into the rat holes, the presence of "ratters," and the systematic use of rat traps and rat falls will do much toward destroying these pests. Although there are slaughter-houses in the two States visited that are literally honeycombed by rats, there are others where rats are very scarce.

A most excellent "rat fall" may be made of a strong barrel, about half full of water. The cover should be placed on a pivot and well baited. Hundreds of rats may be caught with this device. It is important to dispose of the bodies of these rats so that they cannot be devoured by other rats or by hogs.

Dogs.—The butcher who allows dogs access to the slaughter-house or its grounds is directly responsible for the spread of certain animal parasites. Dogs should be absolutely excluded. The presence of cats is not attended with the same

danger as that of dogs, but it is difficult to maintain cats at slaughter-houses for any length of time without feeding them on milk or other food besides meat.

The question of raising live stock on slaughter-house premises naturally arises in connection with the question of offal feeding. The opinion upon this question needs no defense to anyone who will consider all the conditions involved. The writer is unqualifiedly opposed to the raising of any kind of stock upon premises occupied by slaughter-houses, and condemns this custom, so prevalent in some districts, as dangerous to the public health, in that it inevitably results in breeding disease in animals used for food. It is accordingly recommended that local or State regulations be made to the effect that when any stock animal, more particularly the hog, has once entered the premises of a slaughter-house, it should not be allowed to leave those premises alive, and that it must be slaughtered within a period not exceeding two weeks.

Such a regulation would have the twofold effect of preventing the shipment of slaughter-house hogs to abattoirs, and the limit of two weeks would prevent these animals from reaching a stage in the disease known as trichinosis where the malady is transmissible to man, in case healthy hogs became infected after entering the premises.

Country slaughter-houses are almost invariably built of wood. The use of some other building material, such as brick or stone, is advised, as stone is more easily cleaned and holds odors less tenaciously than wood. The flooring and the pavement of the entire yard should, if possible, be of asphalt.

SANITARY POLICE.

The judging of meats involves a knowledge of disease which cannot be assumed or expected to be possessed by butchers. Placing diseased meat on the block, unintentionally no less than intentionally, is dangerous to the health of the consumers. For the protection of both the butcher and his patrons, therefore, all meat should be inspected at the slaughter-house by someone who is trained in meat inspection. As a rule, a veterinarian is best fitted for this work. Every local board of health should have a competent veterinarian among its members, and the local meat inspection would very naturally be one of his duties. It seems best, however, that the State veterinarian should have control over the slaughter-houses, and the writer would even go so far as to advise the appointment of an assistant State veterinarian whose sole or, at least, most important duty should be a sanitary supervision of slaughter-houses.

There are several reasons for suggesting that the slaughter-houses be placed under the State board rather than under the local boards. In the first place, the majority of slaughter-houses are located a short distance beyond corporation limits, and hence beyond the control of the local boards. If, however, these slaughter-houses are licensed by the State boards, satisfactory regulations can be imposed. Furthermore, the sanitary supervision of the grounds can best be performed by someone who is entirely independent of local practice, and the veterinarian who has this matter in charge should give up his entire time to it. A small country town cannot, of course, keep a man for such a duty, but a competent State official could be kept busy.

As a rule, there is little complaint against slaughter-houses in case the odor arising from them is not especially offensive. When complaint is made, the butcher sometimes cleans up the premises a little and the matter is dropped. From the above discussion, however, it must be evident that the odor arising from a slaughter-house is insignificant when compared with the sanitary side of the question. It must also be evident that little will be done to better the existing conditions unless those directly affected take some decided action in the matter. The classes most affected are the farmer and the townspeople. The farmer suffers loss in his stock; the townspeople suffer loss in health. The townspeople can protect themselves against the diseases by thoroughly cooking their meats, and their interest in the matter then ends. The farmers must protect themselves in some other way, and the most natural way is to demand a better regulation of the country slaughter-houses. Let the farmer, therefore, take the initiative, and for his own protection let him demand a State control of these premises.

SUMMARY.

1. A well-regulated system of slaughter-houses is as necessary to the public health as is a well-regulated system of schools to the public education.

2. Every slaughter-house is a center of disease for the surrounding country, spreading trichinosis, echinococcus disease, gid, wireworm, and other troubles caused by animal parasites, and tuberculosis, hog cholera, swine plague, and other bacterial diseases.

3. The important factors concerned in spreading these diseases are offal feeding, drainage, rats and dogs.

4. These diseases may be gradually held in check and in some cases entirely eradicated in two ways: First, by a reduction in the number of premises on which slaughtering is allowed, on which account it is urged as all important that there be a segregation of the slaughter-houses, so that all the butchers of any given town will be compelled to do all their killing in a common inclosed and restricted area. In abandoning slaughter-houses, care should be taken to destroy the rats, in order to prevent the spread of infection. Second, by regulating the factors concerned in spreading the diseases; (*a*) Offal feeding should be abolished; (*b*) drainage should be improved; (*c*) rats should be destroyed; and (*d*) dogs should be excluded from slaughter-houses.

5. A licensing of slaughter-houses by the State boards of health and the employment of an assistant State veterinarian, whose sole or most important duty shall be a sanitary supervision of all places where animals are slaughtered for food, are necessary.

6. The appointment on every local board of health of a competent veterinarian, whose duty it shall be to control the class of meat placed upon the block, is urged. All meats should be inspected at the time of slaughter, thus securing for the local consumer the same guaranty that the National Government provides for the foreign consumer and for interstate trade.

7. The prohibiting of the raising of any kind of stock within the premises of slaughter-houses is advised, as are also State regulations to the effect that when a stock animal (horse, of course, excepted) once enters the premises of a slaughter-house it must never be allowed to leave those grounds alive, but must be slaughtered within two weeks' time.

8. It is advisable to use more substantial building material in the construction of slaughter-houses.

9. The country slaughter-house is more injurious to the farmer than to other classes, as he is less able to meet the dangers involved, and on this account he is urged to take the initiative in calling for a better regulation of places of slaughter.

10. When a farmer kills stock for his own use, he should burn or bury the offal, or cook it in case he feeds it to hogs.

DEATH CHAIR.

In a story which appears in the current number of *Chapman's Magazine*, Harold Child refers to the "death chair" which is in use in Gloucestershire. Many of those whose dwelling is on the banks of the Severn die of bronchitis. When the end is near and the sufferer from bronchitis can not breathe lying down, he sits over the fire propped up in the "death-chair." The high back shelters him from the draughts, and the projecting wings are meant to support his head when it falls over quietly in death. A "death-chair" stands in the best bedroom of every farmhouse, and the parson and squire each keep one to lend to cottagers in time of need.—*British Medical Journal.*

BROTHER JONATHAN

When Washington went to Massachusetts to organize the army of the Revolution, he found a great want of supplies and means for defence.

Jonathan Trumbull the elder was then Governor of Connecticut, and the General, who placed great reliance in Trumbull's judgment, remarked, "We must consult Brother Jonathan on the subject."

The Governor was successful in supplying many of the wants of the army. Thence arose the by-phrase, "We must consult Brother Jonathan:" and the name has become a national designation as is "John Bull" for England. — *Curious Questions.*

CURRENT LITERATURE CONDENSED.

Diagnosis of Early Pregnancy.[1]

After mentioning several reasons why an early positive diagnosis of pregnancy is important, the author says that recent surgical advances have added to these the great necessity of being able to recognize a pregnancy and distinguish it from other pelvic conditions at a period before the fetal heart sounds can be heard. Not only is the reputation of the patient at stake, but the life of the child and the life of the patient, to say nothing of the chagrin of the operator who cuts down upon a normal pregnancy. It would be rather over-stating the case to say that a two months' pregnancy can be absolutely diagnosed in every instance, but it is well within bounds to say that a two months' pregnancy is the easiest to diagnose of all pelvic growths which present a tumor of equal size, and, further, that it is only where unusually exceptional difficulties are present that it is not possible to make a positive diagnosis.

The author then considers the various well known signs and symptoms of pregnancy, but lays great stress on the following: By an ordinary physical examination it has been possible to arrive at conclusions that, at least to myself, have been eminently satisfactory." Just as in making a bimanual examination in other conditions, it is sometimes necessary to use an anesthetic to relax the abdominal walls, but ordinarily the anesthetic can be dispensed with. When the uterus is in the normal position, by placing two fingers of one hand in the vagina, bringing the tips of the fingers against the anterior vaginal wall—or, when retroverted, behind the cervix—and the other hand over the abdominal wall, the size, shape, and consistence of the uterus can be easily determined. At eight weeks the uterus is about the size of a large orange, is regular in shape and distinctly *cystic*.

Practically, a cystic uterus is always a pregnant uterus, but there is at least one exception to this statement. A cystic fibroid will give nearly the same sensation as a pregnant uterus. But the cystic fibroid is a very rare condition, and with it is an absence of all the symptoms and minor signs of pregnancy. It is a slow growth, and if there is any possible doubt it can be settled by a delay of ten days. In that length of time a pregnant uterus would increase very apparently in size; the fibroid would not change materially.

It is hardly necessary to go into the differentiation of pregnancy from other small pelvic tumors. All that is necessary is to make sure that the tumor felt is the body of the uterus and that it is *cystic*. If the tumor felt is not the body of the uterus or is not cystic, it may be one of some dozen pelvic possibilities. In the cases reported the other signs and symptoms were given due consideration, but the diagnosis was not made until a cystic uterus was clearly felt.

[1] Dr. Wm. S. Gardner, in *Am. Jour. Obstet.*

Present Status of the Antitoxin Treatment.[2]

"Recommended by the great body of laboratory workers, endorsed by thousands of physicians both in hospital and private practice, and welcomed by the common sense of all the people at large, antitoxin has become the most widely endorsed and most generally employed of all remedies. Though confronted from the first by the fiercest opposition and materially retarded by the unbridled enthusiasm of some of its advocates, diphtheria antitoxin has, within the brief period of three years, proven itself to be specific in the full sense of that term." In support of his claim, the author quotes leading medical editorials and recent text-books.

Prior to the completion of the supplementary collective investigation on the use of antitoxin in laryngeal diphtheria and Childhood]: "Antitoxin is a specific Emmett Holt wrote [Diseases of Infancy and Childhood]: "Antitoxin is a specific remedy for experimental diphtheria in animals. Experience is now sufficient to jus-

[2] Alex. McAllister, M.D., in *Jour. Amer. Med. Assn.* July, 1897.

tify the statement that it is specific in man, and in just the degree in which we can fulfill the conditions which are essential in experimental diphtheria. Gratifying as were the results with the serum treatment, they have been constantly improving and there is every reason to believe that with larger experience both in the preparation and the use of antitoxin, still better results will yet be reached. Certainly there is no remedy for any disease that has more testimony in its favor than has now diphtheria antitoxin."

The author says it is interesting to note how medical men and medical magizines, after opposing antitoxin or treating it with stolid indifference, have become its advocates. The experiences of the past nine months in the employment of the remedy, and the collective study of its results have given evidence in its favor so overwhelming, that the physician who refuses the remedy a place in his medical armamentarium has his sincerity immediately put in question. The author finds every legitimate objection to the remedy fully overcome by the employment of the concentrated serums introduced during 1896 by Mulford, of Philadelphia. It is alleged that there are, to-day, not more than three or four active opponents of the treatment, whose names were known to the profession before the introduction of antitoxin. These have raised great hue and cry, and have rendered many physicians timid in the application of the remedy.

Of so-called fatalities from the use of antitoxin, the author recalls that every new remedy has had similar charges made against it; notably, quinin, the coal tar derivatives, morphin, ether, chloroform, etc. In the early days of hypodermatic medication, it was common to attribute sudden deaths to the use of the needle, and, even to this day, some communities will not tolerate the hypodermic syringe because of this morbid fear. He admits that five deaths, which followed the injection of antitoxin, cannot be satisfactorily explained. In three cases the remedy was used for immunizing. In all, untoward symptoms appeared immediately upon injection of the serum, death resulting in from five to eight minutes. He points out that virile germs and ptomaines, even when nurtured in an incubator, are not capable of such effects in small animals, much less in human beings. The total number of antitoxin injections already made is placed at, approximately, more than two million. In view of this large number, if it be conceded that there is risk in the employment of antitoxin, this element must be placed at one two-thousandths of one per cent. On the other hand, the gain in recoveries ranges from 25 to 30 per cent. over all older treatments.

When Shall we Use the Forceps?[3]

1. The indication for the use of forceps rarely or never arises during the first stage of labor, before the membranes have been ruptured.

2. It may be necessary to employ the forceps during the first stage, when the waters have escaped on account of the increasing exhaustion of mother or child.

3. It is proper to apply the forceps during the first stage of labor for accidents, whenever they may arise, notably in certain cases of convulsions, placenta praevia, and prolapse of the cord.

4. In the second stage it is proper to apply the forceps one-half hour after the head ceases to advance, when there is no disproportion between the passage and passenger.

5. When, however, there is a tight fit between the child and the birth canal, the use of the forceps may be delayed. This delay should rarely exceed two hours after the head ceases to advance.

6. If the head has engaged, and neither advances with the pain nor recedes after the pain, the forceps should be applied promptly.

Sea Sickness: Its Cause, and Measures to be Taken for its Relief.[4]

Sea sickness is caused by a modification of fear, which deprives the heart of its high-pressure power to throw the blood up to the brain. Its functions in consequence become instantly disturbed.

Digestion ceases, as when the pneumogastric nerve is divided. The food then ceases to undergo its normal changes. It speedily acts as a foreign body, which the stomach fortunately expels, preventing

[3] W. E. Park, M.D., in *Amer. Gyn. and Obstet. Jour.*
[4] Hy. Armstrong Rawlins, M.R.C.S., in *Brit. Med. Jour.*

putrefactive fermentation. Distressing efforts to vomit may still remain, to relieve which place the person on his back. Elevate both legs and feet higher than the head, and, if necessary, the arms also. The patient should be placed transversely to the ship, and as near the centre as possible.

In the treatment of other maladies, the elevation of the extremities need only be repeated three times a day for half an hour. As the ship is always on the move, however, it may be well to keep one leg elevated for a lengthened period.

The following results will be obtained from elevating the extremities, in a few minutes, say five. The heart will receive again its full supply of blood. High pressure, and the general pressure of the circulation will be restored. The brain receiving again its full supply of blood, its functions will be restored, digestion will recommence, and sickness cease. From the blood receiving a full supply of oxygen, the acidity of the urine is restored, with that also, no doubt, of the gastric juice. The temperature is prone to fall; flannel and hot water bottles should therefore be applied to the body, if necessary. Two ladies on their way to India suffered terribly from *mal de mer*, until they were relieved by this method of mine.

A Case of Separation of the Celiotomy Wound a Week After Operation.[5]

At the meeting of the Krakau Gynecological Society on March 16, 1897, the author reported the following interesting case: The patient was 33 years of age, operated upon for pelvic inflammatory disease on January 20, 1897. She had had a cough before operation, which became much more severe and very persistent after operation. Narcotics were freely given, but without benefit. The convalescence, nevertheless, during the first week was perfectly normal. On January 28 the dressing was found saturated with a bloody fluid, and on removing the dressing intestines were seen covering the abdomen and the incision separated throughout its entire length. An anesthetic was administered at once, the intestines washed with warm Walthard-Tavel solution (normal salt solution), replaced in the abdominal wound, and the abdomen again closed with five interrupted silk sutures. The convalescence now proceeded without interruption, and the patient left the hospital well.

Switalski calls attention to the perfectly normal convalescence following the accident, there being no subjective symptoms, the pulse and temperature ever remaining about normal. He believes the cause of separation in this instance was undoubtedly mechanical,—the severe and persistent coughing. The suture material employed in the primary operation was catgut, three separate layers being introduced. He had employed this method and material in twenty-two other cases without an accident, and feels confident the method and suture material are not at fault. This accident is not very rare, for Rosner has been able to collect thirty-one cases which have been reported in the literature during the last three years.

[5] SWITALSKI, *Univ. Med. Mag.*

The Bacterial Action of the Blood.[6]

A preliminary communication of researches on this subject telling of a large number of experiments made on the blood of rabbits and pigeons with the anthrax bacillus. From them he draws the following conclusions:

Both from defibrinated arterial and venous blood of rabbits and pigeons, and from the serum and corpuscles of centrifugalized blood inoculated with anthrax, the number of colonies obtained in gelatine plate cultures shows a tendency to diminish fairly regularly up to a certain point. When this point is passed there is, on the contrary, a tendency to increase in the number of colonies obtained. This rise is often so rapid that after 24 hours the number of colonies cannot be counted. In some cases the initial diminution is so rapid that after 1½ to 7¼ hours the plates proved sterile, and remained so till the close of the experiment 22 to 73 hours later. In others, after a diminution, the numbers rose again after 2½ to 8 hours. In a third class the plates made after 1 to 7 hours were sterile, but later colonies reappeared and multiplied. Thus the influence of blood media is not constant;

[6] LONDON (*Arch. Biol. St. Petersburg*), *Brit. Med. Jour.*

some bacilli are killed, others are quite unaffected, while others seem paralyzed for a time, but under favorable conditions regain their activity.

On an average the lowest number of colonies was reached with specimens taken 3 hours after inoculation of the blood. The mean of many experiments showed that at this time the diminution of numbers of the bacilli was from 93 to 100 per cent. The tables given seem to prove that the bactericidal substances are present in a constant quantity, and that the fewer the bacilli inoculated the more of these substances there is to act on each bacillus individually.

Pigeon's blood is more bactericidal than rabbit's, which is probably the reason of their relatively greater natural immunity against anthrax. One of the tables given shows that under the same conditions the arterial blood of individual animals differs very slightly in bactericidal power. Taking the constituents of the blood, the serum is more bactericidal than the corpuscles, and possibly venous than arterial blood, though Foder found the contrary.

Finally, the author sums up the whole literature concerning the origin and constitution of the bactericidal substance. The special mechanism which communicates the bactericidal power to the blood is probably contained in the formed elements; by its aid substances are formed which are active, even in such an inert fluid as the serum. It is uncertain in what condition these substances exist first in the formed elements, and afterwards in the serum. Either they have lost all the characters of active biological elements, or the latter are present at a certain stage of development only.

The author found that broth made from cabbages and radishes, under conditions excluding the presence of active biological substances, acted on anthrax bacilli bactericidally in a manner exactly similar to blood. Hence it is simplest to suppose that the bactericidal substances are not active agents struggling with bacteria, but are inert matter, which, after being seized and assimilated by the bacteria themselves, then exerts its toxic power on them. Thus so called bactericidal media contain both nutritive and, in relation to bacteria, toxic substances.

Definite Results of Nerve-Extraction Done by Thiersch's Method.[7]

The author has twenty-six times used this method; once when the spine was the cause, in all other cases in trifacial neuralgias. Seventeen were relieved of their pain; in the remaining cases there was an improvement or return. The extraction of the nerve ought to be done more slowly even than Thiersch recommended. In this manner he removed as much as ten centimeters from the ends of nerves, together with their minutest ramifications.

In trigeminal neuralgias he would remove the nerve-branches as well, though apparently intact, because the neuralgia is seldom limited to one nerve (4 in 25). Reunion is always by first intention, and there is scarcely any scar. Removal at first of the three trunks of the trigeminus notably lessens chances of return. If relapse should happen, intracranial extraction of the nerve and of the Gassserian ganglion must be done by Krause's method. Augerer employed it in one case with perfect result.

Helferich (Griefswold) supports Augerer and attaches great importance to the time employed in removing from the central end a segment as long as possible; also, he advises free isolation of the nerves in their osseous canals, closing the canals with bony tampons to prevent future reunion.

Krause (Altona) objects to the serious alternative of Thiersch's method in the resort to intracranial ablation of the Gasserian ganglion, and says that results are quite satisfactory from resection of peripheral branches, leaving room for further and higher resections, repeated, if necessary, in case of frequent relapses, reserving removal of the Gasserian ganglion as a dernier resort. Krause objects to Thiersch's forceps with transverse ridges to let slip nervelets. He employs forceps with longitudinal ridges so as to seize the nerve more completely and solidly.

"I fear, madame, your poor husband is dead," said the doctor. "No, I ain't," said the supposed corpse. "Hush, John," said the wife, "the gentleman must know better than you."

[7] AUGERER, (*Rev. de Chir.*) *Am. Med.-Surg. Bull.*

Beri-Beri.

Beri-beri is in the Dutch Indies one of the most pernicious diseases It does not lead to death immediately, but ends in a general or particular paralysis of limbs, hands and legs. There was no cure of it, however, till now. The disease had been noticed first at Abjeh, some twenty years ago, as of epidemic standing. It was thought it befell only the natives, but among the many hundred men sick of beri-beri and brought to Batavia there were found many European soldiers. The infectious matter was then derived from the soil, which had been thrown up and ploughed through by military works. About 1885, when the plague seemed to dissolve and lessen the army, Professor Pekelharing, from Utrecht, a renowned bacteriologist, was sent to Abjeh to study the disease even in its place of birth, to find out its bacilli, and, if possible, also a cure against it. In these directions Professor Pekelharing failed entirely. He returned without any result, and the disease went on. Now, Dr. Eykmann, physician in the Dutch military service, seems to have been happier than his colleague and countryman. Dr. Eykmann conceived the idea that beri-beri had nothing to do with the soil, but with the food given the soldiers. The natives there live on rice as their exclusive food, and the Europeans also in these regions take to it. Now Dr. Eykmann had marked that those soldiers were taken with beri-beri who got the Saigun rice, but those fed on the native "red" Sumatra rice remained healthy. In the prison at Sourabaya he found likewise that while on July 1, 1896, ninety-nine prisoners out of 800 had been caught by beriberi, this cipher fell to 86, 82, 43, 21 and 13 during the next month on account of giving the Sumatra rice instead of the Saigun rice. Surely Dr. Eykmann's theory has not yet any scientific foundation, but a mark is found and a practical sign, which no doubt will lead us sooner or later to the discovery of the growth and evolution of infectious material in the human body.—*Journ. Am. Med, Assoc.*

A physician who has given much thought to the subject says that so long as the cyclist can breathe with the mouth shut he is certainly safe so far as heart strain is concerned.

The Anti-Breakfast Crusade.

It is not safe to say positively that it it is best for everyone to go without breakfast, eating enough at the other meals to make up any deficiency caused by it, but many of those who have experimented on this line have found that for them it has proved a blessing. The corpulent, the dyspeptic, the over-eater, and sedentary persons are almost always benefited, and the non-breakfast diet has more adherents than many suspect. The theory on which these two-meals-a-day folk base their conduct is that, no work being done after the late and hearty dinner, and little tissue waste following during the hours of sleep, the body has sufficient energy stored from the evening meal to meet the demands of the next forenoon's work. To take a hearty breakfast, they claim, is simply to provide a surplus of supply, and by just that much over-taxing the system. The elimination, therefore, of one-third of meals a year means conserving of energy, which, in the aggregate, can be used for other purposes. They say that after the first week or two it requires no effort to begin the day without food, and even the aromatic Mocha, steaming through the house, produces no effect upon their resolutions. Many years ago there was a similar practice advocated, but it was to go without the third meal instead of the first one. Those who advocated it also claimed to be much benefited. There are still people who omit this third meal, but the latter-day practice of omitting the breakfast insteadof the third meal is considered to have hygienic advantages. Only experience can decide the matter. It would be a great saving in household labor, and women who have so many little cares would certainly be benefited. Those who try it should not content themselves with a few days' trial; nothing less than a month or even more should be thought of, and certainly no harm can come from it. One great benefit is in the splendid appetite guaranteed and for brain workers the clearness of the brain during the forenoon when no energy is drawn off to digest the food.—*Journal of Hygiene*, New York.

In great Britain there is one medical school to about 2,300,000 of the population; in this country there is one to 2,110,000.

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PHILADELPHIA, SATURDAY, SEPTEMBER 11, 1897.

EDITORIAL.

THE FALL CROP.

We are at that time of the year when young men are completing their arrangements for entry into medical schools, and, whilst most of these are only carrying out a plan long cherished and matured, many will still make the ultimate decision for or against medical study, as the result of trivial circumstances. Their decision rests largely in the hands of the medical profession and, so far as the advice of this body extends, it should be given conscientiously and without regard to immediate selfish interests. "The Reporter" has long maintained that there are too many physicians in the United States; that entrance to the profession has been too easy; that the average physician is underpaid and overworked in consequence of stern competition, and that he would be better paid, less exposed to hardship, and able to render more efficient service, if he had a greater average clientele. We need not thresh over the statistics and the mass of experience which bear out this opinion—too few of our readers will disagree with the assertion to demand a repetition of argument.

Believing that reasonable efforts should be put forth to reduce the number entering the medical profession, "The Reporter," has never gone to the extreme of advocating an interference with personal rights of prospective practitioners, nor has it shared the prejudice so often voiced against the members of college faculties. The young man who wants to study medicine should have the privilege of so doing, provided, always, that he is prepared to deal honestly with his prospective patients by fulfilling his part of the implied contract. In other words, provided that he brings to his work a sound body, a sound and liberally trained mind, and the ability and genuine purpose to practice medicine well. The man who lacks any of these requisites, especially the one who is deliberately planning to pose as a member of a learned and trusted profession

without having a substantial intellectual training, is just as dishonest—potentially far more so—as the man who sneaks into a public exhibition without paying admission. Physical disability and the lack, not of sufficient education, but of mental adaptation, are faults of which the individual may honestly be in ignorance, but it is none the less the duty of the medical profession, and especially of those purporting to be the preceptors or the didactic teachers of would-be medical students, to point out these disqualifications.

There is a considerable number of young men who decide to study medicine without having any deep-rooted preference or any sense of fitness. For instance, only the other day, the writer was consulted by one who had for several years cherished the idea of studying law, but who had been urged by his relatives to take up medical work instead, and, therefore, had relinquished his original plan. Such a person should be most thoroughly discouraged from entering the medical school. He should be told plainly that, in addition to four years of work harder than any other kind of schooling, and disgusting unless intense scientific interest makes one to forget the unpleasant features, the chances are that it will be two or three years before he can gain a living, and that he can never expect the same average income as a lawyer or business man, while compelled to much harder labor. It is a wise and a generous form of selfishness to reserve the scant opportunities for men new in the medical profession to those genuinely fitted to the work, who will be likely to count the returns of their labor in something more than money.

There are some so mercenary, so nearsighted by their devotion to themselves, that they will instigate undesirable accessions to the profession for the sake of securing a driver, or an office assistant who will work cheaply, or, perhaps, to extort a hundred dollars from some poor boy as for the purely nominal service of preceptor, or, forsooth, because they want some one to listen to their lectures and to pay college fees. "The Reporter" trusts no one who reads these lines must take them home to self, but it does feel that a real issue confronts the profession, and now is the time it behooves all to work in harmony against the tendency to crowd the medical profession with half educated and half interested recruits.

A gradual change is taking place in the center of medical education. Comparing the statistics of 1888-89 with those of 1894-95, we find that the Chicago medical institutions have increased in attendance from 1,338 to 2,294, while the New York medical colleges show a decrease in the attendance, which has fallen from 2,081 to 1,893. Baltimore has almost doubled its attendance, and now has 1,293 students. St. Louis now takes fourth place, having passed Baltimore, Cincinnati and Louisville, and it now stands fourth, with an attendance of 1,399, while Louisville is sixth with 947 students, a decrease of 43. Philadelphia, which was over 500 behind New York in the first period, is now over 300 ahead, with an attendance of 2,201, a gain of 686 over the figures of 1888-89.—*Journal A. M. A.*

The "Mentone Man" was found in a cave at Mentone, near Nice, in France.

The skeleton, almost perfect when found (1872), was that of a tall, well-formed man, with an average skull, and a facial angle of eighty-five degrees.

The antiquity of this skeleton is undoubted. The remains are associated with those of the cave-lion, cave-bear, and other extinct animals.

The bones were all in one piece, and surrounded by flint implements and the bones of animals.

These remains, with the skull found in a cave near Engis, are the oldest known human bones in existence, and aid in proving that ancient races had as much brain-room as modern, and were not a lower race of animals.—*Curious Questions.*

ABSTRACTS

SOME SURGICAL SINS.*

There are a number of "sins of omission as well as of commission" which surgeons may well pause to consider. Let no man lay flattering unction to his soul and say: "This is not for me." Wait and see! Profiting if there be aught to censure in your work.

FIRST SIN—Operating on Hopeless Cases.—There are some—and they are called surgeons—who will undertake almost any kind of an operation regardless of the prospects of cure or failure, nay, even of life or death; and sometimes without consideration of the question of their ability to do the work properly.

The incentives are: (a) to get a good fee; (b) to have the credit of operating, especially in rare or difficult cases; (c) to obtain control of the influential patient from a conservative physician who, recognizing the hopelessness of the case, is doing all he can to ameliorate suffering and prolong life, but persistently refuses entreaties of patient and friends to "do something;" (d) ignorance of the real condition.

The objections to operating in cases well known to be hopeless are: (1) It is wrong. The doctor who will operate upon a case merely to secure a good fee, knowing perfectly well that death will follow, or that no benefit will be gained, is no better than a common thief! And the surgeon who will, under like circumstances, operate before a class merely to demonstrate the technic of the operation and show his own adeptness, is little better. Yet I have heard a "professor" in one of the schools of St. Louis confess to this practice. (2) It brings discredit upon surgery. Therefore, I plead for (a) more careful examination before operation, (b) more thorough diagnostic and prognostic skill, (c) more judgment in the selection of cases; for I am charitable enough to believe that most operations upon hopeless cases are performed, not through desire of notoriety or gain, knowingly to the detriment of the patient, nor yet as an attempt to gain an advantage over a rival, but through ignorance of the actual condition and of the prospects for recovery after operation; indeed, I, myself, must plead guilty to having been indiscreet in the selection of cases in the enthusiasm of my early work. Verily, wisdom increaseth with age—and experience. 3. It prevents other patients with similar disease from submitting to operations clearly indicated. I recall an instance in point: I was called to Nebraska to remove a cancerous breast; it was too far advanced to cure; operation could but hasten death and increase suffering; I refused to do anything; after my departure the doctor amputated the breast without entering the axilla (!) and the woman died in six weeks. A lady upon a neighboring farm whom I saw at the same visit had a scirrhus of the breast just developing, almost consented to extirpation, waited, and was lost; she was "scared out" by the death of her friend; another life sacrificed through ignorance.

The diseases in which this mistake is most liable to be made are (a) appendicitis with perforative peritonitis; (b) cancer of the breast; (c) hip-joint disease; (d) malignant affections of the uterus; (e) severe, acute trauma where waiting a few hours would determine the question of life and death.

SECOND SIN—Delaying Opinion as to the Gravity of a Disease.—This applies particularly to cases which the attending physician knows full well tend to a fatal termination if not subjected to early operation; yet he hesitates to tell the patient the character of the disease and the necessity for surgical treatment—waiting, tinkering, giving medicines, encouraging the patient with false hopes—hopes, he admits, based upon bubbles thin as air; but still waiting, ever waiting—for what, God alone knows. I never have been able

* Emory Lanphear, M.D., Ph.D., LL.D., St. Louis, in *Amer. Jour. of Surg. and Gyn.*

to fathom such men, to determine why they temporize, too often until too late. One would think them few, but this is not true. Such men are numerous—I meet them quite frequently. Only a few months ago a physician brought me a case of cancer of the uterus from the Indian Territory, far advanced, stinking, yet still operable. He was well informed, a graduate of one of our best colleges; had treated the case for some months, recognizing its malignancy all the time. Yet he begged me not to tell the patient what was the trouble. He had informed her that a simple little operation would have to be performed for her "ulceration of the womb" —a "simple little operation:" hysterectomy! Well, I told her of her condition and of the prospects with and without operation, and let her decide. She submitted gracefully, and was sent home in three weeks relieved of present danger, possibly cured. The doctor was in an agony of indignation for a time, but regained his equanimity when the patient did not denounce him for his deceit, and he forgave me for my frankness, on account of the prompt recovery of his patient. Such episodes are not at all uncommon. They are met chiefly in connection with (1) uterine fibromata, (2) cancer of the uterus, (3) cancer of the breast, (4) amputation—for septic wounds, osteomyelitis, tuberculosis, etc., (5) appendicitis, and (6) opening of purulent accumulation as (a) empyema, (b) psoas abscess, (c) cold abscesses of the neck, (d) pus in the joints, etc. I might dwell much longer on this topic but—*verbum sat sapienti.*

THIRD SIN—Failing to Operate in Depressed Fractures of the Skull.—Until quite recently it has been the teaching of schools to leave all fractures of the skull severely alone, unless some grave symptom demanded operation, regardless of depression. This was because there was more danger (before the days of antiseptic surgery) in opening up wounds of the head than in leaving them alone. And in these degenerate days, when even a Joseph Lister takes a pocket case from his pantaloons, removes a knife, automatically dips it in carbolic solution and proceeds to operate, I am not sure but the old doctrine is still a pretty good rule to follow—for some operators. Indeed, I have recently seen some American surgeons who pretend to be moderately clean (more of which later) that I would not trust inside of my head. But presuming that every community now has at least one physician sufficiently familiar with antisepsis and asepsis to keep his professional brethren of the neighborhood from picking his instruments out of the solution to examine their construction (a thing that not infrequently has happened to me, and not always in the country, either), I must insist upon the future observance of Agnew's rule: "Every depressed fracture of the skull should be operated upon regardless of the amount of depression and irrespective of pressure symptoms." The reason for this is that nearly 50 per cent. of serious injuries to the frontal region, when not trephined, terminate in epilepsy or insanity; nearly all of which sequela can be prevented by operation at the time of accident. It is not good practice to wait for the nervous system to arise and then operate. The way to cure traumatic epilepsy is to prevent it; also, traumatic insanity.

But many men do not do this, especially in the country—why, I do not pretend to say. Timidity perhaps, possibly a fear of censure if the patient dies after operation; and of legal complications in accidents of homicidal origin. The latter often deters surgeons, oftener than justifiable, in all sorts of injuries—not to the head alone. And there are probably other reasons. Be that as it may, I know that many cases of depressed fracture are still left untrephined, for I meet such cases quite often and recent ones too. Doctors are too afraid of urging operations in such cases in opposition to the wishes of relatives and friends, and continue in charge of the case in spite of the whisperings of conscience that a wrong has been done in not insisting upon operation or quitting the case. I have little respect for the man who has not the courage to live up to his convictions. But the possibility of loss of dollars and of custom, and of influence and of friendship, even, is a powerful salve for a bleeding conscience; and so the skull isn't raised, and the doctor who knew better but didn't dare, remains in charge, and an incurable epilepsy or an insanity is put to the debit side of his account for

settlement in the great hereafter! Let us see. Here is a case in point.

P. G. was 52 years of age at the time of the operation. Some four years before he came under my care he was kicked upon the forehead by a mule. There was a marked depressed fracture of the frontal bone in the median line just at the margin of the hairy scalp; but as he fell into the hands of a "conservative" surgeon who believed that a depressed fracture should not be operated upon unless profound symptoms of pressure are present he was not trephined, because he was unconscious but a few moments, and very soon went about his business as if the injury were of no consequence. If a progressive modern surgeon had been called, who believed that every depressed fracture of the skull should be subjected to operation at the time of injury, however slight the depression, and irrespective of pressure symptoms, the most disastrous consequences might have been averted; for very soon a most remarkable change occurred in the patient. Before the accident he was an exemplary husband, and devoted father; a strong opponent of intoxicating liquors and a Christian gentleman; noted for his integrity and excellent character. But soon it was seen that his character was totally changed—he deserted his wife and sought the companionship of prostitutes; he was so abusive to his children when at home that they fled from him in terror; he became so addicted to the use of whisky that he soon wasted his property and sunk to the level of the drunken sot, as often found in the gutter as in bed; he cursed and swore and seemed to lose all sense of manhood and decency—he was obscene, vulgar and debased. This condition continued for a period of more than three years with occasional intervals in which it was thought he was going to "reform;" finally, after a long debauch, suicidal and homicidal impulses became predominant, and at last the relatives consented to operation. Upon removing the depressed bone a large fragment of the vitreous plate was found projecting through the dura an inch or more into the frontal lobes. The superior longitudinal sinus was crushed and filled with organized blood clot, and much of the middle frontal convolutions showed signs of pressure but no decided degeneration. There was little shock and no meningitis following this extensive operation. A marked quietness instead of constant restlessness was the first change noticed in the mental condition; the countenance became more serene, the voice less coarse. As convalescence progressed, it was found that the patient was more like his former self—he greeted his wife and children with a pleasant smile and kind words instead of scowls and curses. And when bodily health was completely restored he became his old self once more; gentle, affectionate and trustworthy. This improvement was not temporary. More than two years have elapsed, and his mental condition is as good as before the accident. He recalls the incidents of his mad career as one remembers a vivid dream, shuddering at the horrid recollection and trying to forget the terrors of the past in the pleasant realities of the present.

Now here was a triumph of surgery, to be sure. But supposing this man had not fallen into the hands of one who could restore him; or that he had died while yet in his iniquity? If what the theologians tell us be correct, would not the doctor who failed to do his duty be held responsible for this soul's eternal torment? But —religion aside—from a purely ethical standpoint, has a doctor the moral right to commit this "third sin?"

FOURTH SIN—Pretending to be Clean, But Failing.—Every one now knows the inestimable value of asepsis; most surgeons pretend to practice it; nearly all fail. The clean (ideally, surgically, truly clean) surgeons of America do not number a dozen! I know them —I mean the leaders of the profession, not the hewers of wood and tillers of soil, not the common, everyday workers like you and me, but the men to whom we look for guidance. Why, I saw a "professor of surgery" in one of the leading schools of America, not long since, making a thyroidectomy before his class; his spectacles fell into the wound; he picked them out, deliberately readjusted them and went on about his work as if nothing had happened; and in reporting the case subsequently he wondered why he had pus in the wound—yet he would be scandalized if I were to assert that he doesn't practice aseptic, modern surgery! He thinks he does. It is just that kind of men who

commit this "Fourth Sin." They are the men I am after, and they are not confined to America, either. England has but few men who are doing ideal work, and the continent is nearly as bad—or it has changed wonderfully since my last visit. The points of failure are:

(1) Dirty finger nails. Lawson Tait's remarks that, "the high mortality rate in abdominal surgery found in the work of German surgeons is easily accounted for —they don't clean their finger nails," is applicable to the methods of some surgeons not Teutonic. Too many operators simply scrub their hands for a few minutes, wipe them upon a towel, wash in bichloride solution for an instant, and then proceed to operate.

Doctor! Does that apply to you? Now you know well enough that after carefully scrubbing your hands for several minutes you ought to dry them and closely trim the nails; then scrub with much soap and muscular energy for five minutes more and then sterilize them by (a) immersion in alcohol for at least two minutes, and then washing in sublimate solution, or (b) washing in saturated solution of potassium permanganate until hands and arms are of a mahogany color, decolorizing in a saturated solution of oxalic acid, and finally rinsing in sublimate solution, 1 to 1,000, and then in boiled water. You know you ought to do this before every laparotomy (abdominal section), trephining, thyroidectomy, resection of joint, etc. —but do you do it? If not, you are guilty and need censuring.

(2) Carelessness in touching clothing, table, pulse of patient, handle of pitcher, etc., during an operation, and then going on without further washing, is entirely too common with those who are perfect in their methods of preparation. One of America's greatest teachers, writers and operators—a man of whom we are all proud—has to be constantly watched by his assistant in regard to his department of the "fourth sin;" in his enthusiasm, he forgets his own precepts. "To err is human." There is some satisfaction in knowing that Missouri does not have all the sinners. We all should be more particular about contamination of our hands and instruments during capital operations. Eternal vigilance is the price of—asepsis.

(3) Carelessness in keeping and handling gauze. (a) It is too common a practice to keep dry gauze wrapped up in a paper which is hurriedly unrolled and handled with dirty fingers in cases of haste. If kept dry, a necessity with the iodoform variety, it should be rolled in aseptic, oiled paper, and placed in a tin box or glass jar which closes tightly, and occasionally resterilized by heat. Preferably, gauze should be kept in a glass jar, in sublimate solution; tightly closed; and a dirty hand never thrust down after a piece. I, myself, keep two jars—one for dressings for pus cases, of which I am not so careful; the other for operations and aseptic dressings—from which the pieces are taken by means of a pair of forceps, sterilized by passing through the flame of an alcohol lamp before insertion in the jar. (b) Gauze is too often cut with scissors not sterilized, especially in making dressings. I know a surgeon of more than local reputation who invariably cuts his gauze for dressings with scissors taken from his velvet-lined pocket case; and he is a teacher, too. But that does not make it right. (c) Allowing assistants or nurses with suspicious hands to cut the gauze is just as bad. I recently saw a "trained" nurse in a hospital assisting at a removal of the breast; she was cutting gauze for "sponges"—moved the slop-jar under the table for the surgeon, handed the ether can to the anesthetizeur, and continued cutting gauze without a thought of washing. Such cattle ought to be taught the value of the Hindoo proverb: "Cleanliness is the key to heaven."

(4) Improper selection and management of instruments. (a) Those without metal handles—so that sterilization by boiling or otherwise is impossible; (b) those with old-fashioned points—so that perfect cleaning is unattainable; (c) failure to scrub and boil all instruments immediately after operation in septic cases.

FIFTH SIN—Undercharging, in Order to Secure an Operation.—This is a sin too often committed by men who stand high in the profession; and this assertion is no idle figment of the imagination, either. As a young man, I am often compelled to bear the brunt of the sins of older men. For example, a physician in Northern Kansas made all arrangements for me to operate for an ovarian tumor; a banker's wife; fee agreed upon, $500. The

patient arrived at the hospital during my temporary absence from the city; banker "accidentally" fell into conversation with another, an older surgeon, who remarked that $250 was his (or to be charitable, perhaps, he may have said the) usual charge for such an operation; banker, on inquiry of nurses, physicians, etc., found this man to be "the best surgeon in the city," and he was $250 "ahead;" I was $500 "out." Many such experiences have been mine; 'tis the fate of the young and the meek.

Hic fabula docet—but this isn't a fable, and really is not supposed to teach anything, except, perhaps, patience—which, like the poor, the young surgeon must have always with him.

SIXTH SIN—Stealing Patients from Other Surgeons.—This is more often the cause of hard feelings between surgeons than any other one thing, though, as it is done usually in such a genteel, "ethical" way there is no recourse left to the injured party except to growl. Occasionally one, with more enthusiasm than discretion, "prefers charges—"which come to naught. But sometimes the biter is bitten. I recall an instance. I had made all arrangements to operate in conjunction with a distinguished surgeon of Memphis, upon a Southern lady who had a very bad pyosalpinx; now, in the city where she was stopping there was a surgeon who had made a number of sections without a death and was very ambitious to reach the magical fifty cases without a death, beyond which world-wide fame is supposed to lie; he, hearing of the case, managed to be introduced, and with an eloquence worthy of a better cause, persuaded her that he was the only man that could do the work well; he actually took her in his own buggy as he left, carried her to the hospital and operated upon her without any preparatory treatment, and without waiting to consult her husband, who had left the city for a day; the patient died a few moments after removal from the table; the surgeon "broke his record," received not a dollar, and made an enemy of the husband—but, as for me I am his friend still; it was simply a little professional indiscretion, bred of enthusiasm on his part. But there are cases of genuine, pure, unadulterated stealing, "too numerous to mention," as the auctioneer says, and too vexatious to repeat.

SEVENTH SIN—Representing Capital Operations as "Trifling."—In order to secure consent to operations some are inclined to belittle the danger, represent the work as "trifling," etc. Of course I do not now refer to instances where there is good reason for not going into the details with a patient, explaining dangers to such a degree as to cause refusal to consent to an urgent operation. Such cases are quite often met; and the explanations must be made to the friends, not the patient. But to gross misrepresentation or, at least, to the deception of silence as to the dangers. Once I was guilty of this sin; it was several years ago—when I was just entering upon my surgical work. I had a "streak of good luck," had made some thirty or forty abdominal sections without any bad results, and I thought I could do anything in pelvic work; in my over-confidence I committed the "Seventh Sin," once more demonstrating the truth of Byron's words: "But ignorance must ever be a part of sin." A beautiful girl was brought to me from Southwest Missouri, with tubal abscess, double; she questioned anxiously if there were danger in removal, and I assured her there was none. I removed the tubes, secure in my faith in my own works. I knew not that I tore into the rectum in separating adhesions; she died of peritonitis—never uttering one word of censure, but oh! that look upon her face as she passed into the realm of shades! Then I felt indeed the grievousness of my sin. I believe I shall never again operate upon a patient except in emergency, without fully explaining the possibilities of the case with and without operation, letting him decide. And this is right.

Example teaches better than precept. One of our surgeons of international reputation had as a patient one of the wealthiest women in the city. Disease, ovaritis chronica. She was doing well under chronic treatment and would have remained a semi-invalid to the end of her days, but was ambitious to be well, as became a leader of society. The doctor was likewise ambitious—to be known as an abdominal surgeon, and so he tempted the woman with hopes of health. He said: "Removal of the ovaries is a very simple, little operation: some morning I'll bring my table, my nurse and my assistants and

we'll take out these little troublesome things and make you well." "And is there no danger, doctor?" "None in the least, madam." And she consented. Oophorectomy was performed. The next day the doctor left town for twenty-four hours. Patient developed peritonitis, called another surgeon, and was told next morning she had but a few hours to live. She prepared a surprise party for her physician. When he returned to town he hastened to her home and there found some twenty or thirty ladies, the most prominent and influential in his practice, gathered at the bedside. The lady reaching out her hand seized his in a grasp not to be shaken off. Calmly, amidst profoundest silence, she spoke: " Dr. ——, I was a happy woman, an invalid to be sure, but happy in the love of relatives and friends, surrounded by all the comforts and luxuries that wealth can provide, not suffering much, though wanting health. I could have lived for many years in the peace and happiness of my family. But in an evil hour you came and sang the siren's song. You told me there was no danger. Now I have peritonitis—am dying by your hands. Do you deserve further confidence or success? No. I have called your friends to hear my last words to you. With a dying woman's breath I curse you. Go!" As she flung his hand from her he went—and his business went also. Need more be said?

EIGHTH SIN—Keeping Patients too Long Under Chloroform.—'Twas the ambition of surgeons prior to 1846 to operate rapidly; he who could most quickly perform an operation was rated the best surgeon; in celerity was success and reputation. But with the introduction of anesthesia the other extreme became more and more popular until to-day the whole city of New York does not contain a half dozen operators who insist upon speedy work even in the abdomen. Many indeed say: "It does not matter how long the belly is open if one is clean and the room is warm." Fatal error. Nowhere in surgery is haste more necessary than in abdominal and pelvic work; the man who can most quickly open the abdomen, do his work rapidly, yet well, and close his wound with least delay is the one who will have the best mortality rate, and in spite of the fact that he does operations that the slow man would not dare to attempt. The advice of a great operator anent ruptured tubal pregnancy is apropos: "Get into the belly as soon as you can, but for heaven's sake get out."

Beside the danger of long-continued exposure of surfaces liable to be infected, with consequent disastrous results, there is the greater one from the anesthetic itself. We have been wont to ignore this; with immunity from pain and perfect quietness, we forget that at every operation, however small, in which chloroform or ether is given, our patient is literally carried to "the valley and shadow of death," and though he oft apparently returns in safety, in a few hours may pass beyond. "Shock" is usually due to (1) excessive hemorrhage; or (2) prolonged aneshesia, and many a death certificate has been filled in with "shock" when the real cause of death was too much chloroform or ether. Nor is this danger all. Even though the patient recover from the immediate influence, if he has been kept too long in complete narcosis the remote effects upon the nervous system may be profound and lasting. As Wheaton says: "There is little doubt that anesthesia is responsible for this adding of weeks, months, and perhaps years, of suffering and woe and that many a tortured nervous system lives to-day to testify to the truthfulness of this statement."

In doing our operative work we should, therefore, ever bear in mind "Ariston metron"—the golden mean—the middle course is best; not using undue haste at the expense of safety nor keeping our patient too long under the ever pernicious influence of anesthetic. Unwise speed is bad; "chronic surgery" is worse.

The science of medicine being a true university study, the successful school of the future will be a department of an established university, the increasing tendency toward which we have previously commended in these columns. The most potent factor in the movement toward the ideal medical instruction, thus far, is the influence of the State Boards of Medical Examiners, and public opinion of today is most favorably disposed toward them, because the good work already accomplished is evident to every interested observer.—*Medical Review of Reviews.*

SOCIETY REPORTS.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPEDIC SURGERY.

Meeting of May 21, 1897.

Dislocation of the Peroneus Longus and Peroneus Brevis.

DR. W. R. TOWNSEND presented a young man of 20 years of age, whose peroneal tendons were easily dislocated to the front of the malleolus. The right foot had been affected in this way for many years, the left only for the past seven months. On walking and on rising from a chair, the tendons would slip over the malleolus and cause considerable disability till they were replaced by the hand. The boy did not have much pain, but he was easily fatigued. Dr. Townsend had hastily reviewed the literature of the subject. Dr. L. A. Sayre reported a case in 1870. In 1876 Dr. Beach, of Boston, reported 18 cases, including one of his own. Gillet de Grandcourt reported 10 cases in 1878. Treves said it was caused by sudden and violent contraction of the muscles when the limb is in such a position as to favor displacement, and that it may be treated by pads and pressure, and that, in some cases, it was advisable to replace the tendons and retain them by suturing the torn edges of the sheath.

DR. R. WHITMAN suggested deepening the channel, replacing the tendons in the groove in the bone and giving them a new covering of periosteum or fibrous tissue. This might be possible without removing the sheath.

DR. A. B. JUDSON said that the peronei were comparatively small and unimportant muscles. To a slight degree they assisted the muscles of the calf to extend the foot on the leg. Aside from this their function was to evert the sole of the foot and this function was not seriously impaired by displacement of the tendons to the front of the malleolus. He thought that the patient would get no benefit from an operation and that practically no treatment was needed.

DR. WHITMAN said that the discomfort caused by the slipping of the tendons must be considered and that the boy would be better off if this could be stopped.

DR. TOWNSEND said that the patient had recognized the disability and had come on account of it, and he did not think it was fair to tell him that we could do nothing for him without trying. He thought an attempt should be made to prevent the slipping of the tendons by the application of pads and pressure before an operation was decided on.

A Case of Traumatic Spine with Rectal and Vesical Paralysis.

DR. J. P. FISKE presented a patient, a man 33 years of age, who had been under treatment for 14 months, and under observation 34 months, from the time of the injury. When first seen he was in a condition of complete helplessness. He could not move in bed, and if turned or moved by his attendants he suffered the greatest pain. Urine was constantly flowing and he was not conscious of the passage of feces. Recovery had been complete with control of the sphincters. He was now walking without assistance and had returned to his work. The accident had been attended with great violence. While working as a harness-maker, the boards gave way under him, as he was carrying a heavy load, and his right leg went through a hole in the floor. The spine was forcibly flexed and he became unconscious. The 20th day after the injury rigidity of the spine and muscular spasm were marked. There were complete paralysis from the waist down as regards voluntary motion, incontinence of urine and feces, and pain in the dorso-lumbar region, aggravated by the slightest motion. Crepitus and spinal deformity were absent. The diagnosis was severe traumatism of the spine, concussion of the cord, more or less complete rupture of the ligaments, and possibly partial dislocation of one of the lumbar vertebrae with spontaneous reduction. He was at once encased in plaster of Paris from the axillae down to and including the pelvis, with immediate considerable relief. The plaster jacket was renewed when necessary and was worn day and night for ten months. This treatment, with massage, frequent change of position, alcohol baths, and such medication as was required by his poor general condition and the vesical symptoms was attended by gradual recovery. There were no bedsores. At the end of four months he sat up in bed and was lifted into a steamer chair. In seven months he had regained control of his rectum and could walk a short distance with crutches. From this time his recovery was more rapid. The incontinence of urine persisted longer than the other symptoms, but ceased after a time, and for the past 12 months he had been a perfectly well man. This case showed clearly the immediate and permanent relief which followed absolute fixation after severe spinal injury. Patients treated without persistent fixation were liable to be

constantly troubled with pain in the back and legs, and to present the symptoms of railway spine. Dr. Fiske added that these cases were often considered hopeless. He had presented the patient as an example of what continued fixation and supporting treatment would accomplish.

An Ischiatic Crutch Used in Place of an Artificial Limb.

DR. A. B. JUDSON presented a boy, 9 years of age, who was wearing an ischiatic crutch instead of axillary crutches or an artificial limb. Amputation had been performed below the knee after a railroad accident. The case illustrated the comfort and ability which this apparatus was able to secure in the treatment of these affections of the lower extremity which require that the weight of the body be removed from the affected limb. This use of the skeleton of the pelvis was not a new thing. Ischiatic support was a feature of Dr. Fayette Taylor's hip-splint described in 1867. In fact the long hip-splint was an ischiatic crutch with the added function of traction. In the instrument shown the crutch consisted of an upright steel piece adjustable in length, to meet the growth of the patient, with an India rubber crutch tip at the foot and a semi-circular pelvic band, carrying a single perineal strap. It also had a shoulder strap which transferred the weight of the splint to the opposite shoulder, a steel knee piece, restraining the limb antero-posteriorly and a webbing strap above the knee. There was no customary leather strap surrounding the splint and the ankle because the lower part of the leg was absent. Although the stump was flexed in walking there was no possibility of anchylosis interfering with the subsequent use of an artificial leg, because the knee was free from inflammation, which necessarily preceded anchylosis. The apparatus was easily provided with a joint at the level of the knee, and this was desirable in convalescent hip disease, if the limb was so long as to be inconvenient if constantly extended.

Osteotomy for Inversion in Club Foot.

DR. TOWNSEND, at the request of Dr. V. P. Gibney, presented a girl, five years of age, whose feet had been treated by Phelps' operation, by braces and by building up the outer side of her shoes. On February 16, 1897, to correct inversion, subcutaneous osteotomy of both tibiae had been performed, and also right achillotomy. The lower fragments of the tibia were rotated outward and the limbs put in plaster of Paris. The inversion had been entirely corrected. Dr. R. L. Swan, of Dublin, who had described this operation, after an experience in the treatment of twenty patients with good results, had said that rotation of the limb as the result of equinovarus, and which persists after the latter is corrected, is due to trouble below the knee, that when these patients walk and attempt to toe out, they throw the entire limb out by rotation of the thigh, and that the gait is awkward. The toeing in is due to the fact that the entire leg is rotated in and the external malleolus is too far forward. To overcome this he divides the tibiae only, rotating and bringing outwards the lower fragment, thus placing the internal malleolus further forward as regards its relation with the external malleolus.

DR. JUDSON said that, for the prevention of inversion, he relied on the thorough correction of the equino-varus. If this was done the child would avoid toeing in, either unconsciously or later, from pride.

DR. WHITMAN said that division of the bones of the leg was a very old operation for the correction of the in-toeing of club-foot.

DR. TOWNSEND said that Mr. Swan divided only the tibia and was very careful not to divide the fibula.

DR. TAYLOR had noticed that the feet in the case shown had not been fully corrected before the operation. The child walked very well now and the result was very good, but it seemed uncertain that this condition would prove permanent. He believed that the persistence of inversion in many of these patients was due to incomplete correction of the deformity.

Calcaneo-Valgus with Subluxation of the Astragalus.

DR. TAYLOR presented a baby affected with congenital calcaneo-valgus, with a very unusual degree of dislocation, or subluxation forward of the astragalus. The heel was unduly prominent. The astragalus was displaced forward while the fibula was behind its normal position. Treatment had been gradual reduction and plaster of Paris fixation.

A case of labor has been reported by the *British Medical Journal* in which the **vagina was ruptured transversely** at about the junction of the vagina and cervix posteriorly. Several loops of small intestines prolapsed, on one of which there was a laceration about an inch in length. The patient had been attended by a midwife, and died from exhaustion and hemorrhage a short time after the physician reporting the case was called.

Erysipelas of the Face.—The *Presse Medicale* recommends the following formula:

℞ Carbolic acid,
Tincture of iodine,
Alcohol ..... aa 30 grammes.
Oil of turpentine ..... 60 grammes.
Glycerin ..... 90 grammes.

M. The lesions are to be painted with this liniment every two hours, and covered with aseptic tarlatan.—*Med. Herald.*

PERISCOPE.

Legislation that will place **restrictions upon the building or establishment of homes for consumptives** and the like, in towns and cities is sought in Massachusetts. The unanimous approval of the boards of aldermen and health, plus that of the mayor, will be prerequisite for a license for all private sanitaria for contagious diseases. What contagious affections are, is thus defined: "The following diseases are infectious and contagious diseases, and diseases dangerous to the public health within the meaning of this act: smallpox, diphtheria, phthisis or pulmonary tuberculosis, membranous croup, measles, scarlet fever, typhoid fever, yellow fever and cholera." The proposed act provides that "no infectious or contagious disease, or other diseases dangerous to the public health, shall be treated or cared for in any city or town, in any hospital, home, or other like institution, not a public hospital maintained at the expense of said city or town, or of the commonwealth, or receiving endowment or assistance therefrom; provided, however, that the board of aldermen of any city, by unanimous vote, with the approval of the mayor and board of health thereof, and the board of selectmen of any town, by unanimous vote, with the approval of the board of health thereof, may license any private hospital, home, or any other like institution, of said city, to treat and care for any of said infectious and contagious diseases, or other diseases dangerous to the public health."—*Journal A. M. A.*

That renal colic does occur in infants is more than likely, although there is not universal agreement on the point owing to the difficulty in diagnosing between renal and intestinal colic. Many cases have been recorded where all the symptoms of renal colic were present. It is true that no distinct calculus has been found, on the other hand abundance of free uric acid has been detected on analysis of the urine, and it is the opinion of several whose experience should entitle their views to consideration that this disease is much more common with infants than is generally believed to be the case. The affection is seldom met with among the children of the poor, but is almost wholly confined to the offspring of the rich. The conditions of life under which each class lives must be held responsible for this phenomenon. The poor man has not the same opportunity of contracting gout himself, nor the likelihood of inheriting a gouty diathesis that the rich man has. It is one of the peculiar privileges of the moneyed man to be more prone to the formation of uric acid and to suffer from that state designated *gouty.—Pediatrics.*

From a study on **Extra-Uterine Pregnancy** by Dr. Chaput (*La Semaine Medicale*), the following conclusions are announced: (1) The differential diagnosis between hematocele and pyosalpinx is usually difficult; (2) non-ruptured extra-uterine pregnancy before the fifth month can only be suspected; (3) in extra uterine pregnancy complicated by non-encysted hemorrhage surgeons are unanimous as to the proper treatment being immediate laparotomy; (4) in encysted hematocele or effusion the choice lies between (*a*) laparotomy and (*b*) vaginal incision. The latter is far from being free from danger, and the author always performed laparotomy if hematocele resisted ordinary medical treatment. Even if it is first discovered on making a vaginal hysterectomy or puncture he would perform laparotomy, which makes it possible to take away the ovum and placenta and stop bleeding. In discussing these propositions Dr. Bouilly thought that in any case of extra-uterine pregnancy one had to do with an abdominal tumor which indicated laparotomy. Laparotomy is also indicated when sudden alarming symptoms make one suspect rupture of extra uterine pregnancy. The symptoms of hematocele from rupture of extra uterine pregnancy usually make the diagnosis easy; suppression of menses, suddenness of onset of symptoms, more or less peritonitis, and development of tumor in Douglas' pouch. Incision through the posterior cul de sac is the best treatment. Bouilly had operated in thirteen cases with the best results. Dr. Tuffier thought the diagnosis of rupture by no means easy. Out of four cases seen by him he mistook the first for acute peritonitis from perforation; in the second no diagnosis was made. He agreed with Bouilly that incision through the posterior cul-de-sac was the best treatment of simple or suppurating hematocele. Reynier and Terrier, however, would limit vaginal incision to septic cases, performing laparotomy in all recent ones, which allows the operator to see what he is doing, and to remove diseased appendages if necessary.—*Med. Rec.*

The *British Medical Journal*, in a recent issue, sounds an alarm concerning the **rapid spread of the cocain habit in England**, where it threatens to become the third scourge of humanity, alcohol and morphin being the first and second. All ranks of society are declared to be crowded with its victims—both men and women—many of whom are literary people, who take cocain to stimulate their imagination. The *Journal* advises that the most stringent measures be adopted to eradicate his blighting vice.

An analysis of 221 cases of **foreign bodies in the male bladder** has recently been made by Dr. Francis Packard, of Philadelphia (*Annals of Surg.*). In 108 cases the body was some part of a surgical instrument, catheter or bougie. In the other cases there was nearly every conceivable variety in the objects found, e. g., lead-pencils in eleven cases, rubber tubing six cases, toothpicks, penholders, button-hooks, cigarette-holders, shoestrings, hairpins, needles, and even watch-chains and three penny pieces. It is interesting to note that in thirty-four cases the patients acknowledged that the objects had been introduced to promote sexual excitement. The foreign body frequently gives rise to the formation of a vesical calculus, but seldom causes death.

An Ointment for Pruritus.

℞	Mentholi	4	(3i.)
	Cerat. simplicis	64	(℥ii.)
	Ol. amygdal dulcis ..	32	(℥i.)
	Ac. carbolici	4	(3i.)
	Pulv. zinci oxidi	8	(℥ii.)

M. Sig.: Apply morning, noon and night, after cleaning the parts.—*Dr. C. B. Kelsey.*

Heinrich Fritsch (*Centralblt. f. Gyn.*) says that while making an **autopsy upon a woman who died late in pregnancy**, by a transverse incision above the fundus, the uterus opening, in order to obtain a view of the internal os uteri, he was impressed by the ease with which the fetus could be extracted, and by the smallness of the incision, and the freedom of the oviducts from injury. An opportunity soon occurred for conservative Cesarean operation in a married woman, and proved that this incision obtained great advantages. The abdominal incision can be made higher up in the abdomen so that the umbilicus can occupy its center. This lessens the danger of subsequent hernia, and affords a better opportunity for the assistant to compress the uterus, as it is undisturbed in position; the blood did not reach the abdominal cavity, but flowed outward. The cleanliness of the operation was surprising. Though the placenta was touched by the incision the hemorrhage was very slight. So soon as the large placental sinuses had been emptied the bleeding stopped without compression of the cervix. After detaching the placenta the legs of the fetus were in reach, and the child was removed with ease. The most striking feature was the rapid contraction of the wound by the contraction of fundus. The incision, about eight centimeters in length, requires but seven sutures applied closely. The hemorrhage ceased at once on their introduction. This transverse incision at the fundus is parallel to the vessels. Therefore, the sutures will ligate the vessels, while in a longitudinal incision the sutures are parallel with the vessels; this accounts for the easy control of bleeding by the suture in the method above described. The operation lasted twenty-one minutes in all.—*Am. Gyn. and Obs. Jour.*

Why do we flock to the seaside—to most persons the answer is plain even as the proverbial pikestaff—in search of restful and health-giving change? The chief spokes, so to speak, in the machinery are pure air, plain food, sea bathing, plenty of outdoor living, early hours and a respite of body and mind from the eternal grindstone of nineteenth century construction that awaits the latter-day worker. But of all things pure air comes first and foremost, says the *Med. Press.* The fresh breezes of the ocean, free from dust and microbes, full of ozone, and guiltless of the impurities with which the air of large towns is saturated—this is what the jaded town dweller inhales into his lungs as if it were champagne. At least, that is how the sensible seaside visitor goes to work, and attains his end simply by living outdoors by day, and by leaving his windows and doors open day and night. The idea of any sane person going far away to get pure seaside air, and then deliberately taking a section of that air, and proceeding to poison it with the products of respiration and live in that vitiated atmosphere some seven to ten hours a day would be laughable were it not sad. Yet that is what happens when the visitor goes to bed and spends the night in a bedroom with carefully closed windows and doors. Bad as this is for grown-up persons, it is ten times worse for children, to whom a constant supply of fresh air during sleep is as necessary as sleep itself. Children who pass the night in badly ventilated bedrooms at the seaside lose half the value of the change of scene, which cannot by any stretch of language be called change of air. To secure a good outside air and then to arrange for a stagnant night atmosphere inside is indeed a fool's trick. Parents at the seaside will do well to inquire into the arrangements for night ventilation in their temporary quarters.

According to Dr. Brunon, in the *Normandie Medicale*, the **population in Brittany is being decimated rapidly by alcoholism.** Alcohol has become a part of the staple food of the home. Bread, coffee, and eau-de-vie form the basis of the dinner and frequently even coffee is absent. The most distressing feature of the case is the lamentable effect this use of alcohol has on the young. The infantile morality is enormous, such as met with nowhere else. Of fifty children who had come to the free dispensary of Dr. Brunon two began to drink coffee and alcohol before they were a month old, four at three months, two at five months, five at eight months, one at ten months, five at eighteen months, fifteen at a year and nineteen at three years. With these facts staring us in the face it can no longer be a matter for surprise that the population of France is diminishing year by year, that the rural population is degenerating, that crime and insanity are greatly on the increase, and that industry is on the decline.

The outlook for children of convict parents is sufficiently bad in this country, but it is infinitely worse in Europe, where money is scarcer and the struggle for bare existence keener. In fact in Italy and in other Latin countries it is not only the children of criminals who need fear a life of abject poverty and under the hardest possible conditions. Many of the street arabs accompanying the itinerant organ grinders to be seen in the large towns of this continent and to a greater extent in European towns, have been stolen from their homes, or what is quite as likely, sold by their parents. Brutal callousness to all natural feelings, induced by ever grinding poverty, is responsible for this unhappy state of affairs. Various and persistent attempts to put down this iniquitous white slave traffic have been made, but with only partially successful result. The efforts are baffled by the parents of the children themselves, and in spite of government interference and philanthropic societies this scandalous trade still flourishes. The only remedy for the evil is in uprooting the outgrowth of its origin. Italy herself, with her frightful poverty, combined with ignorance and defective education, supplies inducements for child traffic stronger than can be dealt with by legislative means.—*Pediatrics.*

According to the *American Therapist*, the banana should be considered *sui generis*. It is composed of a large mass of raw starch, some sugar, and frequently an appreciable dose of nitrite of amyl. Physiologically, it is more of a vegetable than a fruit; it is highly nutritious, but is not digested until the intestine is reached. If these facts are kept in mind its indications and contra-indications can be readily determined. In discussing the subject of fruit with a patient the physician should always remember to except this one from the general category, explaining to the patient that practically it is the same as the sweet potato.

The eager desire for change of air, rest, and freedom from work is apt to usurp every other feeling of busy professional men and women at this time of the year. An annual holiday has now become, one might almost say, an absolute necessity as a means by which to restore lost nerve power, physical inertia, and that natural buoyancy of the mind which belongs to all healthily-constituted persons. The exacting nature of many professional occupations is just as harassing for the mind as it is wearisome for the body.

Mental depression as a consequence of this is prone to supervene in the same way as physical fatigue is apt to occur, even after slight exertion. Men become, as it is called, "soft" in condition; boys, as they term it, "slack;" profuse and unnatural perspiration readily ensues after any physical effort, and a general feeling prevails under such circumstances to avoid work of any kind, and to "take it easy" as it is called, because of the physical and mental effort required in order to perform even the most trivial duties.

All these and similar symptoms in otherwise healthy persons are most apt to develop at or about the time of the annual holiday, that is to say, towards the end of the summer, and it is then that the sole prescription of change of air and rest is calculated to effect so marvellous a change in the restoration of spirits and strength. But it should be remembered that as far as possible circumspection should be observed in the choice of the locality in which to spend the few weeks of rest. Obviously to fix upon a place in which the climate was unsuitable for the purposes in need would be a useless policy to adopt.

The benefits from a temporary change of climate are derived from incidental influences, such as relief from responsibility, change of scene, an out-door life and regular habits, and, also, to the influence of the climate in the promotion of the general health. The latter condition, of course, is a most important one.

Generally speaking, persons in good health but of neurotic tendencies do badly in a high altitude, and this is especially the case in conditions where the nervous equilibrium is much reduced, as is often the case in victims of over work, in phthisis and in women at the climacteric period. Again it not infrequently happens that persons coming under this category who live in inland places find the sea air does not suit them. A recent observer has said that a cold and sunny climate, with an altitude not above three thousand feet, is the one best suited for the restoration of a debilitated nervous system.

Again it is undoubtedly true that in the great majority of cases the ordinary "run down" Londoner finds his climatic solatium at some bracing spot by the seaside. A bracing sea-side air for a debilitated London worker comes like nectar to his weary body and soul. On the other hand, a relaxing climate has just the opposite effect, and his rest and change will, under these circumstances, fail to do him the same amount of good. —*Med. Press.*

External Application for Pruritus.—The aggravating itching of the skin in various parts of the body, of which many patients complain—a condition often unassociated with any discoverable pathologic state—can with almost absolute certainty be relieved with an ointment, as follows:

℞	Mentholis	120 (gr. ii.)
	Adipis lanae hydrosi. 15	(℥ss.)
	Adipis benzoinati 15	(℥ss.)

This gives almost instant relief. The menthol, in addition to its anesthetic action, also possesses germicidal action, and both of these probably brought into play. Where an oily base is objectionable, alcohol may be used.—*Canada Lancet.*

The following are some of the principal regulations governing the issuance of certificates to **practice medicine in Rhode Island**, as adopted by the Board of Health: All applicants applying for a certificate to practice medicine in the State of Rhode Island, presenting a diploma from any foreign medical school must pass an examination before the State Board of Health upon the following subjects: Anatomy, physiology, chemistry, therapeutics, materia medica, surgery, theory and practice of medicine, obstetrics, gynecology, hygiene and State medicine. An average grade of 80 per cent. will be required as conditions of receiving a certificate to practice medicine or surgery in this State. Diplomas from all recognized medical colleges in the United States requiring a minimum of three years study of medicine and two courses of lectures for graduation, prior to 1885, shall be recognized as in good standing, and diplomas issued by the same prior to that date, properly verified, shall entitle the holder thereof to a certificate to practice medicine and surgery in this State. For the ten years ending January 1, 1895, all medical colleges exacting the foregoing requirements, shall, by virtue of such fact, be recognized as in good standing and to include the year 1891, but no medical college shall be recognized as in good standing which has not, since 1891, possessed the foregoing requirements, and which has not, in addition, exacted an entrance qualification and attendance on three regular courses of lectures, no two courses to have been given in any one year, as a condition of graduation. On and after July 1, 1895, no medical college shall be recognized as in good standing which does not require the entrance qualification representing as a minimum a high school diploma, or its equivalent, as a prerequisite for matriculation; which does not possess an adequate equipment for teaching medicine; which has not the clinic and hospital facilities, based upon a minimum municipal population of fifty thousand, and which does not have an active faculty embracing the departments of anatomy, physiology, chemistry, therapeutics, materia medica, surgery, medicine, obstetrics, histology, pathology, bacteriology, ophthalmology, otology, gynecology, laryngology, hygiene and State medicine, and which does not enjoin attendance upon 80 per cent. of four regular courses of instruction, of not less than twenty-six weeks each, in four different years, and which does not exact an average grade of 75 per cent. on examination, as conditions of graduation. A medical college shall be recognized as in good standing, in which the student is conditioned in one or more of the branches as requirements for matriculation, or that admits to advanced standing, students that are matriculants of colleges of pharmacy, or colleges of veterinary medicine, or upon the possession of an academic degree.

The pathology of sunstroke has always been a matter of speculation, the post-mortem changes associated with this cause of death not being characterized by any definite and uniform lesions. In a practical paper, based upon eight hundred and five cases of sunstroke in New York during 1896, recently read before the New York Academy of Medicine, Dr. Alexander Lambert makes some reference to the pathology of the affection, and discusses the matter from the point of view of the most recent investigations into the subject. According to Gieson, the ganglion cells of the spinal cord and encephalon undergo some degenerative change, due in all probability to the operation of a toxic substance. The theory, however, that sunstroke is an auto-intoxication, with heat as a contributing cause, and not the direct and only cause, is not new. But further evidence is still wanting to prove definitely that this theory is correct. So far, experiments have shown that the blood serum of some patients bled during an attack of sunstroke, if injected even in a small quantity—five cubic centimetres—into rabbits will cause the death of the animals within an hour. What seems to have been established is that heat alone is not sufficient to explain all the clinical and pathological observations in these cases. The prodromal symptoms of sunstroke are those of acute functional disturbance, while the later symptoms, much more serious, point to grave changes in the blood and in all the nerve centres, especially those of the latter, which control the thermic mechanism of the body.—*Med. Press.*

Here is an explanation of the **recuperating effect of sleep**, which it is important for all to consider: Nature takes the time, when one is lying down, to give the heart rest, and that organ consequently makes ten strokes less a minute than when one is in an upright posture. Multiply that by sixty minutes and it is 600 strokes. Therefore in eight hours spent in lying down the heart is saved nearly 5,000 strokes, and as the heart pumps six ounces of blood with each stroke, it lifts 30,000 ounces less of blood in a night of eight hours spent in bed than when one is in an upright position. As the blood flows so much more slowly through the veins when one is lying down extra covering is needed to supply the body with the warmth usually furnished by circulation.—*N. Y. Med. Times.*

NEWS AND MISCELLANY.

Expressed in time units, the distance between Cape May, N. J., and Philadelphia, is 100 Minutes—measured by the "Century Flyer" over the route of the South Jersey Railroad.

This, and like marked reductions in time to other points, in connection with the superior modern equipment, splendid service, and capable management maintained by the railroad, easily accounts for recent great increase of travel to the health resorts along the southern coast of New Jersey.